

Established 1835.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE.

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No. 3199.—VOL. LXVI.

London, Saturday, December 12, 1896.

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The Survey and Drafting Department will be supervised by
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The Accountant's Department will be under the personal conduct of
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Reference in London—Messrs. DANGAR, GRANT, and CO., Fenchurch House,
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REFERENCES ON APPLICATION

Refers to his Share Market List on Page 159 of to-day's Journal.

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SUBSCRIBED CAPITAL..... \$1,400,000 | PAID-UP..... \$926,520
RESERVE FUND, \$288,000

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HEAD OFFICE: GEORGETOWN, DEMERARA.

MANAGER: GEO. W. LANE, | ACCOUNTANT: F. A. CONYERS Jun.

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New York..... Maitland, Phelps, and Co.

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Paid-up, £525,000; Reserve Fund, £297,500

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SEE ILLUSTRATED ADVERTISEMENT (PAGE 1597).

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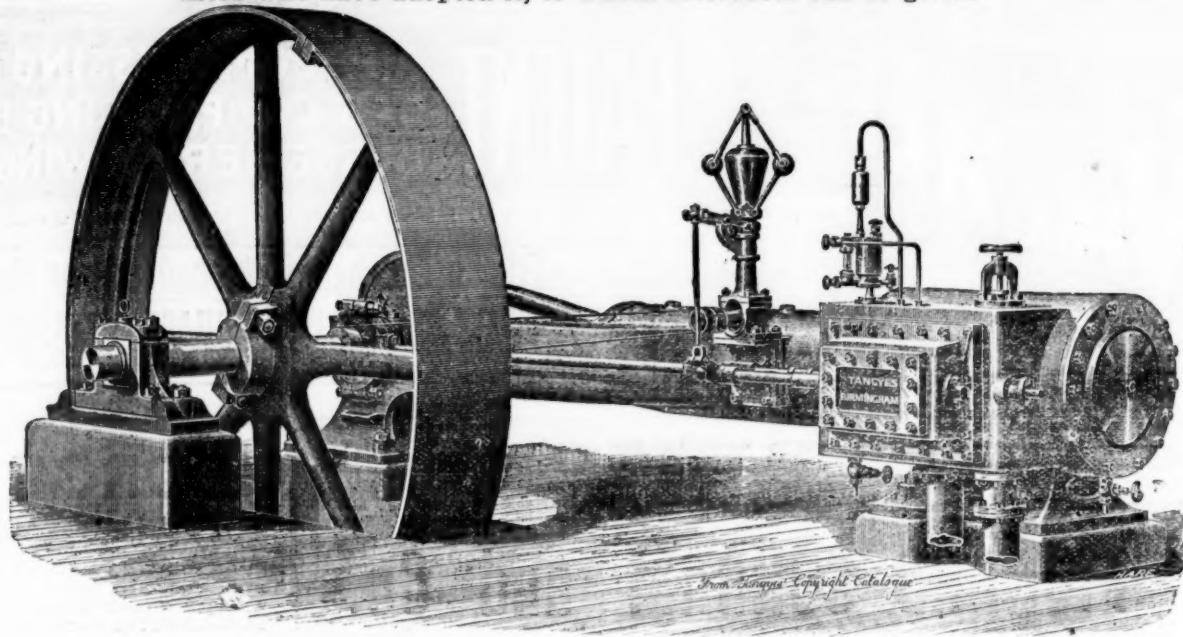
NEW YORK: The Scientific Publishing Company. Price \$7.50.

For Index to Advertisements see Page 1566.

For Literary Contents see Page 1

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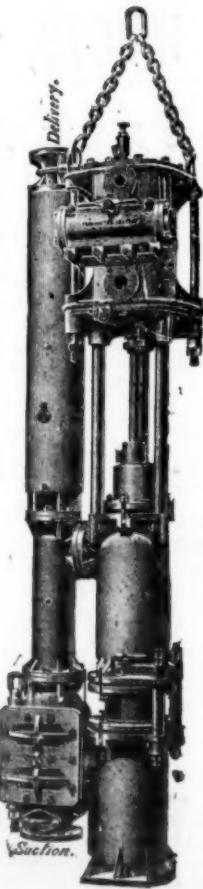
North's Navigation Collieries, the Blackwall Tunnel, the Barry Dock Extension, Hockley Hall Colliery, the Griff Colliery Sinkings, the Coppice Colliery, the Fishley Colliery, the Moss Hall Colliery, the North Walbottle Colliery, the West Hallam Colliery, Port Talbot Docks, Devonport Docks, and other large Sinkings, also North Wales, Rand, West African, West Australian, Victorian, South American Gold Mines, &c., &c.

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GRIFF PATTERN
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SINKING PUMP.

FIG. 875, "FLUOMETER"
PATENT STEAM VACUUM
PUMP.

WORKS,

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INDESTRUCTIBLE
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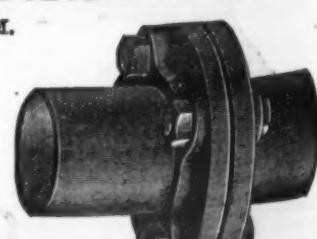
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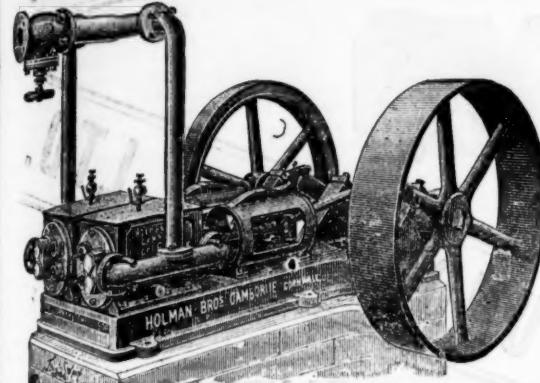
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ESTABLISHED 1838.

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Three Makers
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SILVER MEDAL
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At Botallack Mine, St. Just, Cornwall, TWELVE MEN with TWO new Patent CORNISH ROCK DRILLS drove, sunk, and rose 288 FATHOMS in 12 MONTHS, equal to five times the Speed of Hand Labour

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NEW REGISTRATIONS.

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Egyptian Petroleum Syndicate (Limited).—Registered November 19 by Deacon and Co., 3, Great St. Helen's, E.C. (Capital £120,000, in £1 shares). To apply for and obtain a concession or concessions for working petroleum properties in Egypt or elsewhere, and any mining or other rights in respect to such properties. Registered office, 31, St. Mary Axe, E.C.

Australian Gold and Finance Corporation (Limited).—Registered November 19 by Wm. Sparke, 15a, Finsbury Square, E.C. (Capital £10,000, in £1 shares—10,000 deferred and 100,000 ordinary). To acquire any mines, mining rights, concessions, grants, leases, options of purchase, &c., and to enter into, carry on, or participate in financial, commercial, mercantile, industrial, manufacturing, mining, and other businesses, works, contracts and undertakings of all kinds. Registered office, Bevis House, Basinghall Street, E.C.

Big Golden Quarry (Limited).—Registered November 21 by Steadman and Co., 104 Broad Street, E.C. (capital £100,000, in £1 shares), to carry on all or any of the businesses of miners and smelters, refiners, reducers of metal, founders, metal merchants and agents, engineers, dealers in the produce of mines and quarries, general storekeepers, carriers and merchants, agents for the acquisition, sale, disposal of mines, and other property; as shipowners, &c. Registered office, Warrington Court, E.C.

Cervantes Zinc Syndicate (Limited).—Registered November 18 (capital £10,000 in £1 shares). Objects: To acquire, develop, turn to account, and deal with the Cervantes Zinc Mine, in the province of Santander, Spain, and to enter into a certain agreement.

Industrial Development and Finance Corporation (Limited).—Registered November 23 (capital £10,000, in 9500 ordinary shares of £1 each, and 100 proprietary shares of 5s. each). Objects: To carry on business as bankers, concessionaries, contractors for public and other works, capitalists, merchants, bankers, &c.

Banana's Golden Dream (Limited).—Registered November 23 by Bunn and Berridge, 11, Old Broad Street, E.C. (capital £50,000, in £1 shares), to search for, prospect, examine, and explore mines and ground supposed to contain minerals or precious stones; to purchase, take on lease, or otherwise acquire any interest therein, and to deal with any lands or hereditaments of any nature, gold, silver, copper, lead, &c., quicksilver, iron, stone, coal, &c., other mines, mining, water, timber, and other rights and undertakings connected therewith, and to explore, work, develop, and turn to account the same, and as miners, smelters, and metallurgists generally. Registered office, 77, Brompton Road, London, S.W.

Proved Gold Prospects (Limited).—Registered November 23 by G. Birchall, 15, Gracechurch Street, E.C. (capital £2,000, in £1 shares), to carry on business as financiers, promoters of companies, bankers, underwriters, underwriters, &c., to acquire any mines, mining concessionaries, contractors, capitalists, mining rights, grants, leases, claims, concessions, options of purchase, metalliferous land, &c., in Australia or elsewhere; to develop and turn to account the same in such manner as the company shall see fit. Registered office, 85, Gracechurch Street, E.C.

Whitaker's ALMANACK, 1897.—This highly popular almanack for the coming year is now published. Owing to the several improvements and additions, it has been enlarged to 760 pages. In the supplementary portion there is an interesting article in commemoration of the longest reign in the country's annals, together with a perpetual calendar for finding any date from the creation, with some accounts of the origins of the Gregorian, Julian, and other methods of computing the year. The other portions of the work include the subjects which form a regular feature of the work, and which are corrected and brought up to date.

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1. We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.

2. The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

Shaft December 10 (Leeds).—For sinking a shaft 80 yards deep, and fitting up the same at Encup reservoir, for the Leeds Corporation. Apply for particulars to the City Engineer, Municipal Buildings, Leeds. Tenders, endorsed "Shaft at Encup," must be sent in, addressed to the Town Hall, Leeds, by 10th instant.

Coal December 12 (Bristol).—For supplying coal to their several establishments from January 1 to June 30, 1897, for the Bristol Sanitary authority. Tenders to be sent in by 12th inst., and to be endorsed "Tender for Coal." Forms of tender may be had on application to Mr. D. T. Ayer, Barge town clerk, 51, Fyne Street, Bristol.

Colliery Stores December 14 (South Hetton).—For next year's supply of iron castings, wire ropes, oil, and other colliery stores, except timber, for the South Hetton Coal Company (Limited). Forms of tender and specification with full conditions may be obtained from Mr. J. R. Lambert, South Hetton, Sunderland, and applicants for forms must state the kind of stores for which they wish to tender.

Slack December 14 (Birmingham).—For the supply of engine slack at the various pumping stations during year 1897 for the water committee. Forms of specification, giving particulars as to the quantity of slack required at the various stations and the conditions of contract, and containing form of tender, can be obtained on application to Mr. E. Antony Lewis, secretary, 44, Broad Street, Birmingham. Tenders must be made out on the forms provided, and must reach the secretary by 12 noon on 14th inst.

Various Stores December 15-23 (India Office).—The Secretary of State for India in Council is prepared to receive tenders to supply (1) steel axles, (2) steel rails and fishplates, (3) carriages, &c., (4) locomotives. The conditions of contract may be obtained on application to the Director-General of Stores, India Office, Whitehall, S.W., and tenders are to be delivered at that office by 2 p.m. on 15th inst. for Nos. 1 and 2, and on 22nd inst. for Nos. 3 and 4.

Timber December 16 (Cardiff).—For the supply of pit wood, propwood, and cogwood dur: g 1897 for the Nixon's Navigation Company (Limited and Reduced), as follows:—29,000 tons of pit wood, 3000 tons of Swedish or Norwegian props, 5500 tons of cogwood. Full particulars and forms of tender can be obtained on application at the offices of the company, Bute Docks, Cardiff. Tenders must be delivered at the offices by 9 a.m. on 16th inst., and must be in sealed envelopes, addressed to the Chairman, and marked outside "Tender for Pitwood."

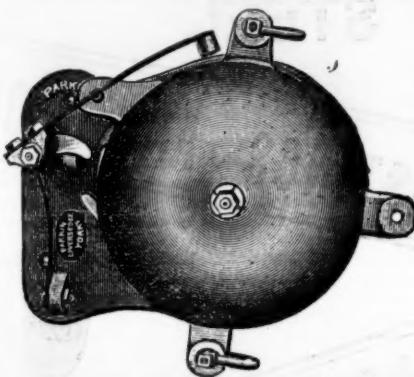
Colliery Stores December 16 (Durham).—For supply of stores, iron, timber, &c., for six months ending June 30, 1897, for the Trimdon Coal Company. Forms of tender, which are to be returned on or before 16th inst., can be had on application to the Trimdon Coal Company, Denshaw Colliery, Trimdon Grange.

Various December 23 (The Hague).—For the supply of (1) the underframes, wheels, &c., of a quantity of goods wagons, (2) ironwork of 19 bridges (about 316 tons), (3) about 560 tons of cast iron, (4) screw piles. Application to the Dutch Colonial Ministry at The Hague.

Stores December 23 (Brussels).—For 53 lots of various stores, mostly metallic, for the Government railways. Particulars at the Brussels Bourse. Also, at the same date and place, furnace bars for the Government steamships.

Adits December 29 (Hull).—For driving adits, driving bore shafts, boring, &c., at their Cotttingham pumping station, for the Hull Corporation. Copies of specification, plan, and form of tender, and other particulars, may

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MINING AND INDUSTRIAL EXCHANGE OF NEW YORK.

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Mr. CHARLES MILES,
179, WASHINGTON BUILDING, NEW YORK CITY, N.Y.

LONDON OFFICE: 10, Basinghall Street, E.C.

be obtained of Mr. F. J. Bancroft, waterworks engineer, Town Hall, Hull, on payment of £2, which will be returned on receipt of a bona fide tender. Cheques and postal orders should be made payable to Mr. T. G. Milner, borough treasurer. Tenders, endorsed "Tender for Adit, &c.," are to be addressed to the Chairman of the Waterworks Committee, and delivered at the Town Clerk's office before noon on 29th inst.

Stores (Tunstall).—For the supply of stores and materials for 12 months ending December 31, 1897, for the Chatterley-Whitfield Collieries (Limited). Forms of tender and all information may be obtained at the company's offices Tunstall, North Staffordshire. Mr. J. R. Wain, secretary.

Sinking Well (Denny, Scotland).—For sinking a deep well. For particulars apply Carron Grove Paperworks, Denny.

NEW PATENTS.

LIST OF APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

26199 Gustaf Dillberg and William Walker, 40, Chancery Lane, London.—An improved gold saving and amalgamating machine.

26507 Carl Schwartz and Albert Weishut, 28, Southampton Buildings, Chancery Lane, London.—Process of manufacturing ferro-manganese or copper manganese, or copper sulphur, or sulphuric acid from sulphurised iron or copper ores.

26501 Albert William Daw and Z. Charles William Daw, 32, Chancery Lane, London.—Improvements in machines for undercutting coal and channelling stone and other minerals.

26906 Thomas C. Fawcett (Limited) and Joshua Swallow, Hatton Garden, London.—Improvements in or relating to the treatment of purple or other ores and by-products obtained from chemical works for the extraction of iron.

THE KIMBERLEY DIAMOND MINES.—Professor William Crookes, F.R.S., delivered his second lecture on the diamond mines of Kimberley on Monday night at the Imperial Institute. Sir David Tennant, Agent-General for the Cape Colony, presided over a large audience. After a full description of the working of the diamond mines, the lecturer mentioned that the four principal mines employed about 8,000 persons, of whom 1,500 were whites and 6,500 blacks. From two to three million carats of diamonds were turned out of the De Beers Mines in a year, and up to the end of 1892 ten tons of diamonds, valued at £60,000,000, had come from those mines. In 1895 there were found 2,435,541 carats of diamonds, realising £3,165,958, at an expenditure of £1,704,813, and leaving a profit of £1,401,145. The De Beers Company could raise more diamonds than were represented by those figures, but it had been found that the demand for the stone did not exceed four or four and a-half millions sterling annually, and the output was accordingly restricted in order to maintain the price. Large diamonds were not so uncommon as was supposed. Stones weighing over an ounce (15.5 carats) were not infrequent at Kimberley, and the largest found so far in that mine weighed 428½ carats in the rough and 228 carats after being cut. The largest known diamond, weighing 970 carats, was found at the Jagersfontein Mine, and was now being cut at Amsterdam.—A vote of thanks to the lecturer terminated the proceedings.

Whitaker's ALMANACK, 1897.—This highly popular almanack for the coming year is now published. Owing to the several improvements and additions, it has been enlarged to 760 pages. In the supplementary portion there is an interesting article in commemoration of the longest reign in the country's annals, together with a perpetual calendar for finding any date from the creation, with some accounts of the origins of the Gregorian, Julian, and other methods of computing the year. The other portions of the work include the subjects which form a regular feature of the work, and which are corrected and brought up to date.

SOME ECONOMIC FEATURES IN CONNECTION WITH MINING ON THE WITWATERSRAND GOLD FIELDS, SOUTH AFRICAN REPUBLIC.*

By EDGAR P. RATHBONE.

(Continued from page 1514.)

Explosives.

So far as can be ascertained, the cost of explosives on the Witwatersrand amounts to £600,000 per annum, the explosives used consisting of various compounds of nitroglycerine—that is, dynamite proper and gelatine.

At the present time on the Rand, as a rule, in blasting very hard rock, such as is frequently encountered at great depths, and especially in shaft sinking, gelatine is preferred to dynamite. Gelatine is, generally speaking, under such conditions, a far more economic explosive than dynamite, and it is frequently an error of judgment on the part of those who purchase the explosives to consider first cost only, and not the effect which is to be obtained by the use of the higher explosive. It is also important to use the strongest detonators and the best fuse. There is no economy in using a cheap article in this direction, as misfires naturally mean great waste of time and labour by having to abandon the drill which has so misfired. There cannot be the least doubt to the most casual observer of the underground mining work on the Rand, that there is room for great improvement as regards the manner in which explosives are used. Indeed, it is hardly an exaggeration to state that a miner-like "stop" on the Rand is rarely, if ever, seen. The face of the stopes instead, as the name implies, being broken into step-like ledges, which admit of drill holes being placed to economic advantage, is an inclined flat surface, presenting the worst possible conditions for placing drill holes in positions admitting of their being exploded with the greatest economic effect. This condition of things naturally causes great extravagance in the use of explosives, a far greater number of drill holes being put down than is at all necessary to break any given piece of ground. To a large extent, as has been already pointed out, this uneconomical condition of affairs is due to the employment of unskilled labour—i.e., Kaffirs. As an inspector of mines, the author has seen quite an army of natives drilling in a straight line a series of holes, set straight down on a perfectly flat face, without any miner-like supervision being displayed.

If as much attention had been directed towards the prevention of waste in explosives as has been devoted to the question of its reduction in first cost, a great economy in working would already have been effected. It is not intended in this paper to deal with the purely political question as affecting the first high cost of the explosives, such as are included by the Dynamite Commission and Government dues; but, from the following figures, it will at once be seen what a very large percentage of the total cost of mining is absorbed by explosives.

According to the Government returns, which give the tonnage of rock actually raised from the mines, and also the amount of sinking and driving carried out in the Witwatersrand mines some 6,000,000 tons of rock were broken, about half of which was actually milled. In order to break this amount of rock, the returns also show that about 2,500,000 lbs. of dynamite were consumed, and 6,000,000 lbs. of gelatine. This would indicate that the actual cost of rock broken, for explosives alone, is about equal to 2s. per ton. This, as already shown, more or less agrees with the cost which is actually obtained in practice by various companies.

In order to show what a large proportion of the total cost of working is consumed by explosives, it may be stated that from the returns of various companies, the author finds that explosives vary on the cost per ton of working from 2s. to 3s. per ton, the total cost of mining in such cases being from 12s. to 18s. per ton.

Timber.

The total cost of timber and sawn lumber for the Witwatersrand mines, as will be seen by the annual cost bill, amounts to £300,000, a great portion of which may be put down to shaft timbering. The amount of timber used underground, especially at the greater depths which have now been attained in most mines, is remarkably small; in fact, the only economy which could be suggested in the case of some mines would be the more general use of stone "packs," in place of props, as not only do such "packs" support a far larger area of roof surface than props do, but it has the additional advantage of storing the broken rock in the mine, instead of hoisting it to the surface. It might also be suggested that the old rails be more used for roof supports, this being a common practice in the European coal mines.

The total cost of timber naturally varies according to the amount of shaft sinking that is in progress, but, so far as relates to the stoping work, it seems only to vary between 3d. and 6d. per ton. No very great amount of saving in the working cost may, therefore, be looked for in this direction. It is, however, probable that when the extensive plantations of millions of trees which have been planted on the gold fields during the past few years have grown sufficiently large to make useful mining timber, that there will not only be plenty of such timber available, but it will also be much cheaper, as most of the principal prop timber has now to be brought in by ox wagons from districts situated from 50 to 100 miles and more from the gold fields. In this connection it may be mentioned that trees of the Eucalyptus variety grow to a good cutting size easily in 10 years from seed.

The best sawn lumber for shaft purposes is now being brought from West Australia and Oregon, U.S.A., or, in other words, from localities situated from 8,000 to 12,000 miles distant from the gold fields.

With the opening up of South Africa by railways, doubtless some of the northern districts, in which large timber is known to exist, will be able to compete for a portion of this trade, but a more enlightened railway policy will be necessary to such an end.

Cyanide.

The next largest factor in the bill of costs of the Witwatersrand mining is that of cyanide, which, so far as can be ascertained, amounts to a total of £240,000 per annum. From various companies' returns the actual cost of treating a ton of tailings, exclusive of royalty, by the cyanide process varies from 2s. 6d. up to about 4s., the lower cost being principally due to the extensive scale of operations upon which the process is conducted.

With the larger plants the actual cost of the cyanide consumed, per ton of tailings treated, varies between about 1s. 6d. to 2s. a ton, whilst the labour employed in charging and discharging the vats amounts to about 1s. per ton.

Some reduction in this cost may be expected when the price of labour is reduced. It should also be possible in the course of time to procure the cyanide itself at a somewhat lower figure; reduced railway rates would also affect its cost of trans-

port. The much disputed question of royalties for patent rights might also in time be brought to favourably affect the cost of working.

It is very doubtful, however, if cyanide itself can be manufactured within the country more economically than it can be in Europe. From these figures it will be seen that, exclusive of royalty, the cost of cyaniding and milling are about equal.

(To be continued.)

MINING IN THE UNITED STATES.

Copper in New Mexico.—The Vulcan Mine in Montana.—Glauber's salts in Utah.—Gold extraction without mining.—Progress in Nevada.—Plumas preening.—The diamond fields of the United States.—Sissy Raids.—Mr. Edison as a maker of diamonds and gold, and as an epitaph writer for women in general.

(FROM OUR OWN CORRESPONDENT.)

NEW YORK CITY, DECEMBER 1.

IN the present flourishing condition of copper mining, a good deal of wonder has of late been expressed as to why a very famous new Mexico property is not being worked. On top, bottom, and all sides is what a person can see in the vast mines of the Santa Fé Copper Company at San Pedro. Great ledges of glistening copper are in bodies too large to estimate. Experts are bewildered, and acknowledge themselves unable to calculate, with any reasonable accuracy, the number of tons in sight ready to be taken out. Some venture 500,000 tons as the probable amount. Others place their estimate as low as 200,000 tons; but all agree in saying that it is the biggest and best paying proposition they have ever seen lying idle. These mines have not been operated for about three years. Why they have been allowed to lie idle is a mysterious story. One thing is certain—they were not closed down because they were unprofitable. It is rumoured, and the report seems to have good authority, that they will soon be started up again. When this is done new machinery will be used in the reduction of the ores of a capacity of not less than 250 tons daily, and it is estimated that the minimum net profit will be \$144,000 per annum. The property comprises a dozen claims, with mill site and machinery. About 25 men are employed by the company now, but when under operation the pay roll will probably carry from 500 to 700 men, besides a great number of teams. When this comes San Pedro will take on new life, which indirectly will serve to encourage other mining enterprises, and stimulate all lines of trade in southern Santa Fé County.

The Vulcan Mine, in Montana, which has been idle for several years, will probably start up in a few days, and a large number of men will be employed. It is definitely known that preparations are being made by the owners of the property to start up the mine probably in December. Even at the present low price of silver, it is stated that the Vulcan Mine can be operated profitably. All the machinery at the mine is still in place, and is in good condition. Some additional machinery will be purchased of the latest and most approved pattern, and the present shaft will probably be sunk another 100 feet. The Vulcan is a silver property and a good producer, and was one of the properties closed down when the price of silver declined. It paid big dividends for some years, and though it cannot any longer be considered a bonanza, it is said to be a good property, and one that will pay dividends to the stockholders if properly managed. It has been an open secret among mining men in the City for some time that the Vulcan would resume after election, no matter which way the election went, as it was known that the mine could be made to pay, at any rate, as long as silver remained even at its present price. It is said that the company has been reorganized on a new basis that will insure its continued operation for a long time to come.

Great Salt Lake, Utah, has for several years been furnishing a good part of the surrounding country with salt. Lately the salt company, while driving some piles, discovered a stratum of sulphate of soda, or glauber's salt, with a slight mixture of silica, which can be easily separated. It is claimed that there is sufficient quantity to make the discovery of value. Most of our sulphate of soda comes from Europe.

A Philadelphia paper states that it is reported on good authority that a large company has been organized to promote a system of gold mining without removing the ore from the earth.

The scheme as applied to gold mining is to sink shafts a few inches apart, and pump into them a suitable dissolvent. A strong electric current is then to be passed through the soil between the shafts. The action of the electric current is claimed to be that it will carry with it the dissolved gold from one shaft to the other, and deposit it there on any metallic circuit in the same manner as electro-plating. The successful mining of sulphur in what is called a somewhat similar way in Louisiana is quoted as giving some reason for thinking the gold mining scheme feasible. But the case is very different. In Louisiana the valuable deposits of sulphur are covered with quicksand, and many unsuccessful attempts have been made to reach the sulphur. The attempt was made to freeze the quicksand, and for this purpose a giant refrigerating plant was set up, but without success. Then a Cleveland inventor offered the proposition to sink a 4 inch pipe, and inside of this a 2 inch pipe, and to melt the sulphur by forcing down steam under pressure and allowing it to expand at the bottom of the well, and pumping out the molten sulphur through the small 2 inch pipe, as is done in certain salt wells worked on a similar plan. This scheme worked successfully and is now in operation, sulphur 90 per cent. pure being obtained, which is allowed to cool in vats and afterwards cut into suitable blocks.

Good progress is being made in Nevada. The Gold Creek Mining Company is developing placer properties in the Island Mountain district, 80 miles north of Elko. They are employing 150 men and 100 teams, put to work during the last three weeks, and are daily putting on more.

They are constructing a storage reservoir that will hold 3,000,000 gallons of water enough for five months run in the driest of seasons.

A great deal of the ground being mined goes from \$5 to \$25 per cubic yard, and the average is 60 cents.

The old Dixie Mine, in Tuscarora, which has been idle for the past four years, recently fell into the hands of Salt Lake men, and is being developed into a fine property. They have erected cyanide plants and mills, which are now running night and day. The company has recently purchased the adjoining ground called the Caprice, paying \$30,000 for it. There are other gold properties under bond in the district, and altogether Tuscarora is enjoying a gold mining boom which is based upon an actual gold output.

In Western Nevada at present, for some reason, more attention is being given to placer than to vein mining. This is pro-

bably because at a small cost for machinery sufficient gold to pay fair wages may be quickly obtained. In the western and central parts of Nevada are more placer deposits than was generally known to exist when all come to be looked up. Such of these as are so situated that water may be cheaply brought upon them are being worked more or less extensively. In places, however, there are large areas of placer ground, for the working of which water cannot be obtained, except at great cost. These cannot be touched, though some are very rich. In a few places, as about Osceola, there are placers so rich that they are being profitably worked by the use of dry washing and winnowing machines.

From Plumas County, California, I hear that work on the gold bar property on the Middle Feather will be prosecuted during the winter. A contract to extend their tunnel has been let by the company. The company have in contemplation the working of the present river bed and the bars where it formerly ran for a distance of several miles, between the mouths of Washington and Dogwood Creeks. The waters of the Feather River will be utilised for the generation of electric power. The plan of operations comprehends the running of a deep cut from the lower end of the bar upon which mining operations so far have been conducted to the head thereof; and when the bar has been worked the rivers may then, if deemed expedient, be turned into the cut and the river bed worked. It is the intention, however, to work the entire river bed, and each bar on the property if profitable to do so. Aerial tramways will remove the displaced earth. Should the hopes of the owners of the Gold Bar property be realised a new field will be opened for the profitable employment of mining capital in our country, as but few of the streams in Plumas, however rich, have been thoroughly mined. Besides, much gold from the hill diggings, suffered to escape by imperfect or insufficient gold-saving appliances, has for many years been finding its way into the rivers and creeks, thus increasing the stores of wealth overlooked and consequently undisturbed by the pick of the early miner.

It is not, I think, generally understood that the United States is likely enough, sooner or later, to become a diamond producing country. Records of unquestionable trustworthiness exist of diamonds having been found in Virginia and North Carolina, but the most productive State hitherto has been California. The first announcement of Californian diamonds was in 1850, in *Silliman's Journal*, and since then many genuine discoveries have from time to time been reported. The chief localities have been near Cherokees in Butte County, near Placerville, in El Dorado County, French Corral in Nevada County, and several places in Amador County. In Trinity County also some very minute diamond crystals have been found. Professor F. Wöhler, of Göttingen, some years ago examined samples of the "platinum sands" of Trinity River. After removing gold, platinum, chromic iron, silica, rutheum, &c., by the usual methods, he observed the residue microscopically, and found numerous colourless, transparent grains, which he presumed to be diamonds. Subsequent combustion in oxygen and precipitation from layta water convinced him that the microscopic crystals were true diamonds. Having regard, therefore, to the wide area of the district over which the discoveries have been made, and to the fact that the whole of this district is of a distinctly volcanic character, and even yet is covered here and there with huge masses of lava and indurated volcanic mud, it can hardly be doubted that systematic prospecting will lead to the development of productive diamond fields. Analogous conditions, with variations of local detail, are observable in Arizona. I have myself seen on the mesa lands near Pinal many spots that I pointed out to the local prospectors as highly probable to prove diamondiferous; and on the occasion of a visit of inspection that I made in 1894 to the Upper Rancheria district of Amador County, California, I met several of the men who had found some of the more noted Californian diamonds, and was shown the exact places of the discoveries. The finds all happened in washing gold from the gravel that underlies the volcanic cap, and it is a moot question whether the gems were, properly, constituents of the lower or upper formation. But that they were merely specimens of far greater numbers cannot be doubted; and any adventurous spirit who may be willing to risk a little capital on the chance of discovering a large fortune might easily do worse than to engage in diamond-hunting at Upper Rancheria. An attempt was made to interest the great De Beers Company in the matter. It was thought that, of all men, the famous Sissy Raids (as we irreverent Yankees now call your irresolute empire builder) would appreciate the importance of protecting the diamond market. But this idea proved erroneous. So the Californian communication was probably used for cut-papers, and its senders received no reply.

I am reminded of all this because Wall-street was talking yesterday, and is still talking to-day, about an article which appeared in the *New York Herald* of the day before yesterday, respecting an interview with our own particular "wizard," Mr. Edison. That versatile gentleman claims to have anticipated Professor Moissan in the manufacture of diamonds. "I succeeded," he said to the *Herald* man, "in producing infinitesimally small diamonds—diamond dust, in short. That there were true diamond crystals I ascertained by sweeping them up on a bit of lather, when I found they would cut into a sapphire. I see that Professor Moissan has succeeded in making rather larger ones. But all these experiments were with me simply a scientific pastime. The production of gold and of diamonds would be of no practical value to the world, unless, indeed, the diamonds were black. Then I'd jump at them like trout to bait. No white diamonds for me, but niggers; the blacker, the harder, and the uglier the better. That would be worth while. Black diamonds are of enormous practical value. If we could get enough of them at low enough prices, we could cut canals right through miles of solid granite. But white diamonds would be of no use to me. And if the time ever comes when white diamonds can be produced by shovelfuls in a chemical furnace, they couldn't be of any use to anybody. Not all the law-makers in the United States or in the world could make them worth more than 50 cents a peck." "Then you are not a Bryanite?" asked the reporter. "No, sir," rejoined the wizard ("laughingly, but with decision," adds the report). "And its the same with gold. I believe it is not only a possibility, but a probability of the future, that we will discover a process of transmuting the baser metals into gold." Here the interest of your readers in the interview presumably ceases; but at the risk of being charged with not sticking to my last, I am tempted to add the following further quotation, giving the Edisonian view of the whole universe in general, and its better half in particular. "Mr. Edison," I asked, struck with a sudden idea, "how many elements are there?" "I believe," was the reply, "that all matter can at present be reduced to one of 67 elements. . . . I believe that there is one primordial element, to which all the elements we know at present are finally reducible. I believe that the discovery of this primordial element is within the possibilities of science. . . . That sex, whose chief duty is the reproduction of its kind, will be superseded as completely as automobilism of the future will supersede horses. Its occupation will be gone. Careful scientists, having the dearest interest of the race at heart, will produce men, and men only. The saints of old were agreed

not only that women brought into the world all our woe, but that the actual presence of woman in the human scheme is the prime difficulty in the way of leading the perfect life. Abolish woman, therefore, and the perfect life will be within the reach of all; the millennium will be attained. You remember the misogynist in 'Adam Bede,' who held that the only thing women are good for is to bear children, 'and even that they do in a miserable makeshift sort. It had better be left to the men. It had better be left to the men.'

I see I have not wandered so very far after all. The last sentence of the quotation brings our minds once more to Sissy Raids.

MEETINGS OF MINING COMPANIES.

NEW HAURAKI GOLD PROPERTIES, LIMITED.

THE annual general meeting of the shareholders in the New Hauraki Gold Properties (Limited) was held at Winchester House, E.C., on Monday, Mr. HENRY WILSON (the Chairman) presiding.

The SECRETARY (Mr. W. J. Lavington) read the notice convening the meeting.

The CHAIRMAN first expressed regret at the loss which the company had sustained by the death of Colonel G. C. Thomson, one of the directors, and then proceeded to state: It may be convenient if I briefly refer first of all to the origin of this company. Most of you who have been associated with New Zealand mining must be familiar with the enormous wealth of what is called the Tokatea block. This company was formed to acquire the South Tokatea, 180 acres freehold, and 10 acres leasehold. Subsequently we found it desirable to acquire an additional block of eight acres called the Try Again. Finding that we had a block of mining property almost too large to deal with satisfactorily, we acquired an additional block of eight acres leasehold. We had no misgivings whatever as to the desirability of doing so, because that eight acres was thoroughly proved to be a gold-bearing area. Those two properties—The Try Again and the West Try Again—were eventually formed into a subsidiary company with the unanimous approval of the shareholders, under the title of the Success Gold Mining Company, and I do not think it is likely to be its baptism. In the statement of accounts you will observe that the expenditure, especially in New Zealand, has been very considerable. That is common to all mining properties of the extent of this one, especially during the first 12 months of its existence; but I think on investigating the various items you will see that they were all necessary with the view of laying open this large block of mining property, and testing it thoroughly from end to end and in depth.

After explaining various items in the accounts, the Chairman proceeded: You will observe that we still have a considerable balance in our hands for working capital, and as far as we are capable of judging at present, it will be quite sufficient for all our purposes until this mine is brought into a paying condition. We have at present £13,000 deposited with our bankers, earning 2½ per cent., and we have the 180,000 shares of the Success Gold Mining Company, which we will hold until better times come, when we may dispose of them at a premium. To thoroughly prove and develop a property to the extent of the New Hauraki requires a large expenditure of money as well as an expenditure of time, and in all probability a considerable exercise of patience. The policy that is being pursued was determined upon after the greatest possible consideration by ourselves and also in conjunction with our manager, Captain Hodge. It is at present being pursued, and I believe with every benefit, but it is possible that in the future it may be necessary to deviate slightly from that policy. At all events, it is a policy of progress which has for its object the opening up of the mine thoroughly, and not, as the usual Cornish phrase expresses it, to pick the eyes out of any part of the mine before it is thoroughly developed. A bold policy of that description necessitates a good deal of delay and an enormous amount of work. If you have taken the trouble to read the report of Captain Hodge, you will see that in accordance with the policy determined, he is laying open the mine most thoroughly from end to end, and although up to the present time the results of his operations have been most disappointing, still, it is well to bear in mind that you cannot possibly treat a mining property as it ought to be treated if you are merely to halt at a particular point, or abandon one which at the present moment happens to be poor. You must progress with your developments in accordance with the original intentions and carry them out right manfully. Seeing the management of your property is under a man who has gained notoriety for his experience, energy, and probity, as Captain Hodge most certainly has done, you may rest assured that your mine will be worked in a thorough and miner-like manner. Our property is almost too large to be treated in the form of one mining area. There has been nothing contemplated by your directors with the view of changing that, but it is just possible that the time may come when we shall find it advantageous to dispose of a portion of it. In point of fact, we have been approached already, but the negotiations were not of a very satisfactory nature, and for the present that is abandoned. As the property becomes developed, you may depend upon it that there are numbers of persons both here and in the colonies who are perfectly ready to appreciate the known wealth in the Tokatea. The most interesting portion of the mine is what is called the deep adit level. You will understand the deep workings must necessarily form the keystone to the general operations of developing the mine. The deep adit level has been extended to a point some 480 feet, and there the South Tokatea reef was cut. It was not so productive, in consequence of the irregularity of the ground, but various operations are being extended with the view of opening up the mine from that point as well as various others. We received the following cablegram this morning:—Prospect, crosscut. This prospect crosscut has been driven 27 feet. Cut through a reef 3 feet wide. Have commenced driving in the direction of the lode west. The developments are looking well everywhere. No particular change. The prospecting crosscut is referred to in Captain Hodge's report. He says:—The No. 1 prospecting crosscut is being driven on the western side of the hill, and in our leasehold property, and is extended in all 181 feet. This crosscut should cut through the South Tokatea reef, and no doubt other reefs exist before we strike the east and west reef. To reach this we have in all to drive about 600 feet. This crosscut, I may say, and all our workings are so arranged that arrangements can always be made from their position to transmit any stuff to the Success battery site. In concluding his report, Captain Hodge says: "I would call your attention to the east and west reefs, which will practically now shortly be working in three sections, and judging from the character of the quartz, and the large amount of iron pyrites it carries and the largeness of the reef, it ought, on striking any altered rock, to develop a good payable reef. This reef alone would yield ample quartz to keep 30 heads of stamps running for a considerable number of years, and I hope we shall be successful on this reef." On the whole, although you may be disappointed, we are not. We are satisfied that the original method of development, as determined on after consultation with Captain Hodge, has been faithfully carried out by him, and we propose to continue that method of development, and we can only hope that, if not all the points, at least at some points, success will attend our efforts. I beg to move the adoption of the report and accounts. (Applause.)

Mr. F. G. LANE, in seconding the motion, said the Chairman had omitted to mention that the company had acquired, at no cost to itself, a piece of leasehold ground extending to over 14 acres to the west of their property. There were a large number of applicants for this property, but their agent was in the field first, and after applying to the Court the property was eventually granted to

the New Hauraki Company. The directors considered it a property of great value. The Chairman had explained that the deep adit level was the chief point or keystone to the work of the property. By this long drivage they would be enabled to tram all the ore they might get from the various reefs through the levels direct to the battery. Although they were unsuccessful in finding gold at the intersection of the South Tokatea reef, still there was no cause for disappointment. Referring to the deep level east and west of reef, Captain Hodge said:—"This reef was intersected by a crosscut driven 171 feet, at which point a strong body of quartz was intersected 3 feet wide, strongly impregnated with sulphide of iron. This reef has since been driven on 117 feet." At three points Captain Hodge commenced crosscut through the reef, and he found that it gave an average of 5 feet. It was a recognised fact that in the Coromandel district the reefs were not always very large; in fact, generally the richest reefs were the smaller ones. It was also an acknowledged fact that in driving on the course of the reefs they might not meet with gold. It was in blocking out the ground already laid out in sections, and by crosscutting, that the gold was invariably found in what they might call pockets or patches. They had extended on the deep level reef a considerable distance, and they had also proved it for 950 feet in length. Captain Hodge stated that the present level at which the reef was being driven would give for the first 300 feet about 150 feet of backs; for the second 300 feet about 200 feet of backs; and for the last 300 feet about 250 feet of backs. They had a level also coming underneath this which would give them another 100 feet of backs, but they would have to drive nearly 600 feet to meet this. To facilitate the operations there they had acquired a rock drill. The deep level east and west reef had been proved in the adjoining property to be a good one, and they had very little doubt that it would become a paying reef to the New Hauraki. As far as they had seen it was mineralised throughout, and at a deeper point they might expect very much better results. As regards the working of the property, they had natural facilities and advantages that scarcely any other property in the district had. Their agent was positive of success, and their development showed clearly that they had prospects second to no other mine in the district which was not at present returning ore. (Applause.)

The motion was unanimously agreed to.

The retiring director (Mr. F. G. Lane) was reappointed, as also were the auditors (Messrs. Ogden, Palmer, and Langton), and the meeting concluded with a vote of thanks to the Chairman and the directors.

GOLDEN PAH (HAURAKI), LIMITED.

The statutory meeting of the shareholders in the Golden Pah (Hauraki) (Limited) was held at Winchester House, on Monday, Mr. HENRY C. WILSON (Chairman of the company) presiding.

The SECRETARY (Mr. W. J. Lavington) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—The notice you have heard read by the secretary will have explained to you that this is the statutory meeting of the company—called the first ordinary general meeting—at which no resolutions are to be moved and no accounts to be presented to you. When we had the pleasure of meeting you on July 3 last, a project was submitted for your consideration, which had for its object the cutting off, if I may so express myself, of 19 acres of the Hauraki property, with a view of forming it into a subsidiary company. The reasons for doing so were fully stated at the time; the matter was considered by you, and the decision arrived at almost unanimously was that it was desirable in the interests of the Hauraki shareholders generally that a new company, consisting of these 19 acres, should be formed under the name of the Golden Pah of Hauraki, so that we are here to-day to celebrate its statutory meeting, this being within four months of the date of the registration; it is incumbent upon all companies to hold this meeting within the period specified. The reasons why it was considered desirable to form this subsidiary company were so clearly stated on July 3, that I think it will be quite unnecessary for me to restate them, because I have no doubt that interested, as all of you are, in the success of the parent company—that is the Hauraki—you will have paid considerable attention to the information we have received as to progress that has been made, and which has been given from time to time in the Press. We have had recent intelligence from our manager, Captain Hodge, on whom devolves the responsibility of developing this property: when we say that these responsibilities devolve upon Captain Hodge you will readily understand that energy, intelligence, and probity are not likely to be wanting, seeing the enormous success he has achieved for you Hauraki shareholders in the development of that property. Among other intelligence we have received is a cablegram which we received this morning, and I will read it to you, because it is the latest information we ourselves are in possession of. As regards the success which the Golden Pah met with when presented to the public through the medium of the prospectus, you will remember that the privilege was, and rightly so, too, given to the Hauraki shareholders to subscribe for the shares. You readily availed yourselves of that privilege, and all your shares have been taken up with the exception of 20,000, which we reserved to be issued at a future date, and, in all probability, at a considerable premium. The most recent information which we have received this morning is to this effect:—"Golden Pah. The main shaft is down 63 feet, or 38 feet below the adit level. The length of the adit is 122 feet.—Pumping machinery—that is the tank pump, which is merely a temporary arrangement until our own more powerful machinery is erected in the shaft—will be completed shortly. The telegram, which is slightly ambiguous in its wording, further says:—"Reported rich ore going down in the 80 feet level; that is the 42 feet and the 38 feet workings. I consider the mine in every respect very valuable." That is the most recent information, and you must give us a little time to pursue development work, and exercise a little patience before you get any thing like substantial returns. Meanwhile the indications are such now that I think you need not have the slightest doubt whatever that you are in possession of a property which will turn out satisfactory to you. It may be to the same extent as the parent company, Hauraki. I would not venture to prophecy that it will be equal to it, but at all events we know as a matter of fact that there are five distinct lodes running through the Golden Pah, and that two of the lodes have exactly the same bearing as the principal main lodes in the Hauraki. That is so far satisfactory. The capital of the company was fully subscribed, and your working capital has been secured—namely, £30,000. I am not aware that there are any other points likely to interest you which I could mention, but I think it would be desirable that you in the usual manner be permitted to exercise your privilege, and put any question with reference to the property that you may feel disposed to. I shall be very happy to answer any such question as long as it is strictly relevant to the Golden Pah property.

A SHAREHOLDER asked if the Chairman could inform them what they proposed to do with the profits made by the disposal of the Hauraki Company of a portion of their property to the Golden Pah.

The CHAIRMAN replied that it was a little premature to talk about the decision of the profits so derived, but as soon as the shares were disposed of they would be divided among the present shareholders of the Hauraki Company.

Another SHAREHOLDER wished to see a plan of the workings, so that the shareholders might see the exact position of the property in relation to the Hauraki.

The SECRETARY said he would be pleased to show the plan after the meeting was over.

The CHAIRMAN, in thanking the shareholders for their attendance, said all the information they received from time to time would be communicated to the shareholders—anything startling would be sent them by postcard. He hoped before they met again matters would have progressed to such an extent that he would be enabled to say something more cheerful and cheering than he had done that day.

A vote of thanks to the Chairman and directors concluded the meeting.

GOLDEN HORSE SHOE GOLD MINING COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in the Golden Horse Shoe Gold Mining Company (Limited) was held at Winchester House, E.C., on Monday, Mr. F. W. NORTH presiding.

The SECRETARY (Mr. Charles F. Hawkins) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—As you already know, this is a special meeting to which your directors have been reluctantly called to call you, in order to pass certain pressing resolutions relating to increased working capital, so that we can be provided with the needful sinews of war, and be able to push on the development of the mine and fully equip it with machinery. As I hope ready in a week or two, and we shall then have another opportunity of meeting you, I do not propose to detain you very long upon this occasion. Before, however, moving the resolutions that fall to my lot to-day, I would just remark that since your directors last had the pleasure of meeting you, enormous development has taken place upon the Coolgardie gold fields, where our Golden Horse Shoe Mine is situated. The Government of Western Australia, evidently convinced of the permanence and importance of the fields by innumerable proofs of existing reefs made by both public companies and private owners, and also from the reports of numerous mining authorities and experts upon these auriferous deposits, with unexampled energy pushed on the railway from the question of providing water at an enormous expense, so, that the mining industry shall not languish and decline for the want of the relief that Government alone could give. The advent of the railway now permits machinery to be delivered at Coolgardie at a moderate expense, and labour, food, stores, and the usual necessities of life can be obtained on the spot with greater ease than 12 months ago, and every day the means of working the mines at a greater expense than the profits are being improved. There are still serious difficulties to be encountered, amongst which I may mention the labour laws of the colony, compelling the owners of any claim to employ a certain number of men in proportion to the acreage held. Failures in this regard, endangers the title, and a property, however good and well developed, may be forfeited unless capital is forthcoming to constantly keep the regulation complement of men employed. Your directors have been very anxious to avoid serious difficulties of this nature. The trouble as to water, by the efforts of the Government and the enterprise of mining companies, who are pushing down their shafts in order to reach the water level, is being gradually overcome. Immense bodies of ore are being quietly blocked out in some of the mines, showing enormous reserves of the yellow metal, and in such cases only one serious trouble exists, and that is the difficulty of recovering a proper percentage of it from the ore. With our small threshing battery, sent, as you know, for experimental purposes, we are said to lose at least an ounce per ton, in the endeavour to recover the gold which assays show to exist. Soon after our last meeting, your managers (Messrs. Bowes, Scott and Co.) decided that the best method of recovering the gold from the ore at Coolgardie was an undecided problem, and they practically decline to advise your directors to order any crushing and recovery plant, preferring to await the results obtained by either companies rather than make costly experiments ourselves. This was disappointing at the time to your directors, but I am bound to say that after waiting month after month for the result of these experiments (which we now know), I am of opinion that this action on the part of your managers has been justified by the event, and we probably saved thousands of pounds by adopting a waiting attitude. Your directors also thought at the time that the cost of delivering machinery to the mine, when the railway was constructed to Coolgardie, would be very much reduced, and, therefore, delay was not regarded as an unmixed evil. Seeing then that the time for the erection of our permanent crushing plant had not yet arrived, every effort was made to develop the property, and after your managers had connected the two shafts upon the Horse Shoe lode, they turned their attention to the celebrated Ivanhoe lode, which is about 600 feet away from it, and which you are aware traverses your ground. Your managers assure us that they have no doubt that it is the Ivanhoe lode upon which they are now working. The present depth of our shaft upon it is 100 feet, and it is from this reef that recent work has been done. The last report from the mines is as follows:—"The improvement in the appearance of the lode in this drive, noted in our last, still continues, the ore body now being the full width of the face, a strong and compact body. Samples tried during the fortnight averaged about 1 ounce per ton." From this you will see that everything looks promising, and your directors see no reason why this lode should not be as valuable as upon the adjoining Ivanhoe Mine, as soon as its depth of 200 feet is attained. All this development has been very expensive, but sooner or later it has to be done upon any mine to prove the ground; and in our case it has been done entirely out of working capital, only small quantities of gold having been recovered from the ore to assist in covering the charges at the mine. These charges, too, have been abnormally heavy, owing to the scarcity of really good mining labour and water, and the serious cost of all stores and material. Still, we have the assurance of your managers that every possible economy has been used in order to reduce these evils to a minimum, and that they have always had a representative living upon the mine in whom they had confidence. However, although I do not hesitate to say that the last year's work has not been all that your directors had hoped for—I suppose directors are very rarely satisfied—still, they feel that it is impossible for them to realise all the difficulties that have to be encountered in operating a mine upon a dry, and at one time almost inaccessible ground, and it is at least a satisfaction to them to know that the appreciation of this property in Australia is becoming greater, and that the workmen are said to be buying shares with their savings. "Good wine needs no bush," and so it is needless for me to remind you that the work done is steadily causing your shares to become market favourites; and the fact that a firm in the City of the standard of Messrs. Tapp and Landau finally agreed to our terms, and are now willing to take 20,000 shares in exchange for £30,000 cash, is of itself enough to stamp this mine as one of the mines of Western Australia. But this is not all; and I think I may tell you a secret, and one that also proves the soundness and value of your property, and the high appreciation in which the mine is held. It is that I hope the reporters will not hear what I say—your directors are almost inundated with requests from gentlemen with high standing who are large shareholders to be permitted to become directors, and give us the benefit of their advice and assistance in the management of your business. To these requests your directors lend a willing ear, and at an early date this subject will be brought before you for your decision. I will now ask you to give your kind attention to the real and only business of this meeting, and with a hope that you will forgive me for having wandered so far from my subject, I beg leave to move the first resolution:—"That the capital of the company be increased to £100,000 by the creation of 20,000 new shares of £1 each." When you have passed that resolution, I will ask the secretary to read the agreement with Messrs. Tapp and Landau, so that you can proceed to the second resolution.

Mr. E. W. GRANT GOVAN seconded the resolution, and remarked that the Golden Horse Shoe Mine was one of the very first floated in the Australian market, and although at the time it was considered they had sufficient working capital, they did not then know of the difficulties they would meet in driving through the very hard rock. Under those circumstances he thought it was only a matter of time before we have to look for other Austra

the request that was made by the directors—namely, that the capital should be increased to £100,000, and even then, in comparison with other West Australian companies, the capitalisation would be very moderate.

Mr. WILSON asked what the working expenses of the mine had been during the last 12 months, and also the expenses of management during the same period.

The CHAIRMAN replied that he had endeavoured to make it understood that the present meeting had been specially convened for the purpose of creating additional working capital, and he had also explained that the subject mentioned by Mr. Wilson would come up on the reports which the directors expected to have ready by the end of the year, when the shareholders would be called together for the express purpose of discussing the very points that had been raised.

The SECRETARY then read the agreement.

Mr. SMITH said he was very pleased to have heard the agreement, and he thought the shareholders ought to approve of it at once. They had a very valuable property, and Messrs. Tapp and Landau must be of the same opinion, or they would not have been willing to guarantee the new issue on the terms they had done.

The resolution was then carried *nem. con.*

The CHAIRMAN afterwards moved:—“(2) That the 20,000 new shares when created be forthwith offered to the existing members of the company at the rate of £1 10s. per share, in proportion to their present shareholding, and that the provisional agreement entered into with Messrs. Tapp and Landau, as now read to the meeting, with respect to the guarantee of the said 20,000 shares, be and is hereby approved and confirmed.”

Mr. WHITE seconded the resolution, and it was carried.

The meeting was then concluded.

JOHANNESBURG GOLD FIELDS LIMITED.

The seventh ordinary general meeting of the Johannesburg Gold Fields Limited, was held, on Monday, at Winchester House, Mr. R. A. Tiesen presiding.

The SECRETARY (Mr. George Christie) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen,—The past twelve months have shown us that we are still living in times in which politics have an undeniably and almost supreme influence over the welfare and prosperity of a country. The gold industry in the Transvaal, and especially on the Rand, stands to-day on the same sound footing as it did twelve months ago, and yet there is not the same eagerness of European investors to embark their savings in the development of a country which has passed recently through a political crisis. The real cause of nervousness, if there was any justification at all, has long since disappeared, but the after-effects of the crisis are very slow in wearing off. In common with all other Transvaal enterprises, our Company has suffered, not exactly any direct damage, though some of the Boer forces were for a time encamped on our ground, but it has suffered through the delay experienced in the development of one of the properties in which we are interested. You will remember that at our last meeting I was able to announce to you that a new era had dawned for this Company. We had overcome the imminent dangers which had beset our path before. We had succeeded in accumulating quite a respectable cash capital, and we had been fortunate enough to find a combination by which one of our properties—the Ziervogel Mynpacht—was to be opened up and worked with a fresh working capital of over £78,000. Well, the dangers of the past have not reappeared. Our cash resources—about £11,000—as one glance at our balance-sheet will show you, are sufficient for all one immediate requirements. Only, the result of our last move—the formation of the Cinderella Deep Company—has not yet fulfilled our hopes, and this is entirely due to the want of confidence and a general lack of enterprise on the Rand. We have circulated among you the report of the proceedings at the recent general meeting of the Cinderella Deep Company, and you will have seen from it that we have proposed the election of two directors—Mr. Elwood Brayshaw and Mr. A. A. Auret. Each of these gentlemen represent a holding of over 15,000 shares, apart from our own holding of 75,000. You will also have seen that Mr. George Albu, the Chairman of the company, strongly objected to such a course, though, for the world of me, I cannot see his reason. Both Mr. Brayshaw and Mr. Auret are thoroughly independent men, both represent large holdings, and both are very well-known men in Johannesburg. Mr. George Albu calls this an unfair interference with his control of the company. Now, this is a charge to which we in this country are very susceptible. I am no exception to the rule, and, as this is my best opportunity to reply to Mr. Albu, I must ask you to follow me for a minute or two through the figures. Messrs. G. and L. Albu hold 60,000 shares. Mr. Brayshaw and Mr. Auret over 30,000, we (the Johannesburg Gold Field Company) 75,000, and you and I personally over 11,000. Now, if Messrs. Albu, for their 60,000, are entitled to two representatives on the Board, then I think anybody will deem that it is only right and fair that all the rest of us, holding about 118,000 shares, are entitled to at least three representatives. Mr. Albu will, of course, argue that our 75,000 shares, being so-called vendor shares, should not rank even with his cash shares, but this I cannot admit for one moment. If we had thought the best policy was to sit on our property, to let it rest idle, we could have done this very well without Messrs. Albu. We gave Messrs. Albu a very considerable interest in our property, for what? What was the consideration Messrs. Albu gave for it? They didn't pay us any money! They guaranteed the working capital of £78,000, and received a bonus of £3,000 shares for so doing! Working capital is intended to work, I suppose. They were not even alone in furnishing this working capital. They had partners; our shareholders, and I among them, constituted part of it. Mr. Brayshaw and Mr. English took over a whole third of their guarantee, and now Messrs. Albu call it unfair if we, the Johannesburg Gold Fields, or even their partners, Mr. Brayshaw and Mr. English (through his representative), claim voice in the administration of the company. No, gentlemen, that is not unfair. You must not for one moment think that there is any serious difference of opinion between ourselves and Messrs. Albu. It may very well be that the policy to delay awhile the development of the Cinderella Deep ground is the best, because we may be able to learn something of the working of the outcrop mines, and the hesitation to commence work in earnest may not all be traceable to the general want of enterprise on the Rand, but if that is the case, we want to have that on the combined authority of such men as Mr. Brayshaw and Mr. Auret (the representative of Mr. F. A. English), and not on the sole testimony of Mr. George Albu. I have more than one reason for saying this, because it would appear from the reports published that ground in our immediate neighbourhood is becoming more and more sought after, and we hear a large area of land, 306 claims, about equal to our own ground near to us, and certainly not more favourably situated than our own, has so recently as October last—and mind, in these days of depression—been formed into a company, with a capital of £100,000, of which the working capital of £135,000 is guaranteed at £10 per share. This is the Angelo Dip Company. This proves that other people take not a despondent view of affairs on the Rand. I will not say more for the moment about our Cinderella Deep shares, but shall come back to them when I sum up the present position of our company. I must say a few words about our other property, the Rietfontein area. You know how very disappointed we all were in the old days of this company, when we found that the gold reefs traversing this property seemed no good. We have so far not been able to reverse our former opinion about the non-payability of these reefs, but if I tell you that this Rietfontein property bids fair to become worth the price we paid for it, gold reefs or no gold reefs, I think you will agree that this is a place of good luck and good management not often experienced. You know that we for years patiently devoted ourselves to tree planting, until we have now 400,000 trees in the ground. We have of late gone in for fruit trees, so that, I think, this spot will shortly be one of the most attractive near Johannesburg. We have excellent water on the farm, and the distance from Johannesburg is not great. Johannesburg is a town which can only extend in one direction, that is, to the north, towards us, because east, west and south is all gold mining ground, with

machinery, and no end of dust. Already people have begun to build villas and suburban residences near to our boundaries. Of late we have had public sales of building land in the direction of Rietfontein, and this building land has fetched at Rouxville and Rosebank £85 to £120 per acre. The board is contemplating laying out a township on our land before long, or we may let or sell small pleasure farms of four or five acres, and, if we realise anything like the price other people have obtained for their ground, we shall do very well indeed, and we shall get back with interest the money we originally paid for the property. A low valuation at the present moment puts the value of the ground in question at £75,000, and that does not take into account our valuable plantations, which, I think, we might safely put down at some £40,000 at present, but which in a few years will be worth double or treble that amount. Now, to sum up the present position of our company, I will say the following: You all know that we, as directors, have nothing to do with the market quotation of our shares, but I hold that it is one of the most paramount duties of directors to furnish such information to the shareholders as will enable them to form an approximate idea of the value of their holding. The issued capital of this company is £235,000. I have just shown you that an approximate valuation of the Rietfontein ground at the present moment, with its tree plantations, will give you fully 10s. per share. In addition to this, we hold 75,000 shares in the Cinderella Deep Company, and I have told you that similar ground in the same position, and of the same extent, has been capitalised at double our figure, and that these shares are guaranteed at 30s. per share. I think you may take it that this will be a moderate estimate of what we shall eventually realise for our Cinderella Deep shares, without counting on any inflation of prices on the Rand, because I am speaking in times of depression. This would give you another 10s. per share, so that, in my opinion, our Johannesburg Gold Fields shares must in time be worth par. If this should come to pass, and our shares be quoted at par, and if this company, which a few years ago was hopelessly involved, and was saved from ruin only by personal advances made by the directors, should become worth a quarter of a million sterling, then, gentlemen, we—I am speaking for myself and my co-directors—shall consider that we have accomplished one of the most difficult, one of the most arduous, and one of the most successful tasks we have ever undertaken. I now beg to move the adoption of the report and accounts. (Applause.)

Mr. P. COMISKEY seconded the motion.

The report was then adopted, Mr. Steward alone dissenting.

Mr. COMISKEY proposed the re-appointment of the Chairman as a director, and Mr. Morton, in seconding this, intimated that he was thoroughly satisfied with the explanation that had been given with regard to the directors' remuneration.

The resolution was carried unanimously.

The auditors, Messrs. Cooper Brothers & Co., were also re-elected, and, on the motion of Mr. Little, a cordial vote of thanks was passed to the Chairman and directors.

The proceedings then terminated.

HANNAN'S STAR GOLD MINES, LIMITED.

The second ordinary general meeting of shareholders in the Hannan's Star Gold Mines (Limited) was held on Tuesday last, at Winchester House, E.C., under the presidency of the Right Hon. the Earl of DONOUGHMORE, K.C.M.G.

The SECRETARY (Mr. Holland Dell) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—The details furnished in the report afford complete information regarding the financial position of the company at the date the accounts were closed. The amount of working capital provided when the company was initiated was £15,000, which amount, I am pleased to tell you, has been fully paid up. When we became fully aware of the expenses to be incurred in connection with the development of your property in Western Australia, we considered it desirable to add to the funds provided for this purpose by the issue of some of the reserve shares, 3020 shares were sold from time to time through the company's brokers at a premium. These shares realised about £4300, which sum was added to the working capital, making 19,300 in all available for this purpose. Sundry creditors, mentioned in the balance-sheet as amounting to £1800, is made up as follows:—The principal item is an amount of £850 for a 16 nominal horse-power condensing engine and boiler, which has not yet been shipped, but which will be utilised to drive our crushing machinery, and there is also an amount of £500 due to persons on the other side for mine supplies; the remainder is made up of small items. As you will see by the accounts, £5303 has been spent in respect of plant and machinery. The principal item in this account consists of a Caird and Rayner condenser, which was sent out as soon as we heard that water had been struck in our property in order to render it available for drinking purposes, and to avoid the expense of purchasing and carrying water from the local condenser for supplying the miners and our staff with water. We have sent out a complete winding and pumping plant, which we believe is now being erected at the main engine shaft. This consists of a 16 horse-power compound geared winding engine, and 16 horse-power boiler, a pit head frame with the usual cages, kibbles, trucks, wire rope, and rail. There is also a steam pump, capable of lifting 4000 gallons per hour, with the necessary steam and delivery pipes. There is erected and paid for and in working order in Donoughmore's shaft a winding engine, a wooden pit head frame, and the necessary cages and trucks. The mine has also been provided with tools of various descriptions for carrying on the work. The freight, carriage, and custom dues upon our machinery have cost us £1271 1s. 9d., which is much less than we should have had to pay under ordinary circumstances. The transport of the machinery from the port in Australia was, however, delayed as long as possible, and we were enabled to send a large portion of it by means of the railway to Southern Cross. The rest went on later to Coolgardie by the same means. The details under development of mines are complete, and include the cost of the mine workings as shown upon the plan accompanying the report, and as mentioned in the manager's report. The other items in the accounts need no explanation from me, as they are shown in detail. You will, however, notice that on August 31 the amount of working capital unexpended was £543. At the present time, after meeting the mine expenses for September, October, November, and December, there will be a balance of about £1000 remaining in hand. The manager's report shows the work which has been done upon the property during the past year, and I think you will agree with me, that the prospecting and exploration of the property has been effected with considerable vigour. I would state here that, as a result of the work done, the Boulder Main Reef, which, in the southern portion of our property—owing, I believe, to disturbance of the ground there—has not opened up so favourably as we expected, has, nevertheless, in the workings in connection with James shaft, exposed a very satisfactory state of affairs. The lode is being rapidly developed at this portion of the property, and has a width of 8 feet, and the last letter from the mine's superintendent, dated October 27, estimates the average value for this width to be equal to from 1½ to 2 ounces of gold per ton. He further states that its value appears to improve as the drivage advances north, and that very rich ore exists in the lode, as shown by the assays which he obtained from two samples, one from the hanging wall, which assayed over 12 ounces per ton, and one from the footwall portion, which assayed nearly 15 ounces per ton. What would be to you, however, as it is to your directors, the source of greatest satisfaction, is that the average value of the ore is satisfactory, and which, we believe, is capable of being worked at a profit. The results obtained warrant the vigorous development of the lode, and as additional working capital is required for this purpose, and for the purpose of providing suitable crushing machinery to enable us to realise the value of the ore now being exposed, your directors have been considering for some time the most suitable means for obtaining this additional working capital. Your directors wished, if possible, to avoid the necessity of asking the present shareholders to provide

this sum, and I have much pleasure in stating that we have entered into a provisional arrangement, which, whilst it enables those shareholders who wish to do so to participate in providing funds to complete the development of what is recognised to be a very valuable property, we have been able at the same time to ensure the necessary support should the shareholders not wish to do so. We, therefore, propose to increase the capital of the company by the creation of 40,000 new shares, which will make the total capital £120,000—by no means large for a company having our prospects—and to issue 15,000 of these shares immediately. These shares are to be offered at par *pro rata* to the present shareholders. To those who subscribe this issue there will be given the right, at any time up to December, 1897, to apply for one additional new share for every two which may be allotted to them in respect of this first issue of £15,000. We have been able to arrange with responsible parties to guarantee the whole of this issue at par in consideration of the right to subscribe at par for the balance of the unissued capital now being created, and 6d. per share brokerage. I have now fully explained both the reason why new capital is required and the means by which it can be provided, and I hope to submit a special resolution to you at the extraordinary meeting to be held immediately at the close of this one for that purpose, which, I hope, will receive your cordial support. Before sitting down I have much pleasure in moving—“That the directors' report and accounts as presented to the shareholders be and are hereby adopted.” (Applause.) The Chairman read also the following cablegram, which was received on Saturday:—“Main engine shaft has reached a depth of 71 feet. It is well timbered, and the shaft station at this level has been prepared. Levels south from James' crosscut have been driven 25 feet on the lode. The level north has been driven 22 feet. The average width of the vein is 8 feet; the average yield per ton 1 ounce 5 dwts. This does not include selected samples. Number of tons of ore on dump, 500.”

Mr. J. H. CORDNER JAMES, in seconding the motion, went at some detail into the present position at the mine, describing fully its state at the various workings. In the original instance, he said, they had expected that the ore opened up by the underlay shaft would have been sufficiently plentiful to have paid large dividends. On development, however, it was found that, though 200 tons estimated by the manager to yield over 3 ounces to the ton had been added to the dumps, the ground was not of such a character as to warrant them in continuing the work. Attention was then directed to Donoughmore's shaft, which was being sunk with a view to cutting the ore in depth, and in which it was expected that the work would be vigorously and rapidly carried out. This shaft was sunk 100 feet in excessively hard diorite, and at that depth they made a crosscut and cut a lode formation. Afterwards they decided to sink another 75 feet in ground which turned out to be a little softer. At this depth a crosscut was continued, and, according to cable information, a lode formation, 3 feet wide, had been cut at a distance of 129 feet. It was also stated that water issued freely from the face of the crosscut. When rich ore was discovered in the adjoining property of the Boulder Main Reef Company, the mine superintendent was instructed to prospect the northern portion of the property, and the James' shaft was sunk and the Boulder main lode running 8 feet wide, and going from 1½ ounce to 2 ounces to the ton, was discovered by a crosscut, extending to 244 feet from the shaft. With this deposit and a good water supply, such as was at the company's service, he felt sure that the property would prove remunerative.

Mr. SPRY, one of those who originally pegged out the property, said that he had refused offers of over £3 each for his shares, and he felt sure that the mine would yield rich ore and become handsomely remunerative.

The CHAIRMAN, in answer to a SHAREHOLDER who criticised several items in the accounts, explained that the company was bound by law to keep a business agent in the colony, and the sum paid by the company for that purpose seemed to him a very moderate one. The directors' fees were only £100 for each director, with an additional £50 for the Chairman, and he certainly thought that he had earned that sum. (Hear, hear.) The sum entered for cablegrams might appear a considerable one, but it was absolutely necessary to be in constant communication with the property.

The motion for the adoption of the report and accounts was then put and carried.

On the motion of Mr. S. JAMES, seconded by Major JEBB, the auditors, Messrs. Ford, Rhodes, and Ford, and Messrs. John Mann and Son, were re-appointed.

An extraordinary general meeting was subsequently held, when, upon the motion of Lord DONOUGHMORE, seconded by Mr. LAFAGE, the following resolution was unanimously carried:—

That the capital of the company be increased to £120,000 by the creation of 40,000 new shares of £1 each, and that the directors be and they are hereby authorised to allot such shares to such persons and on such terms as they think fit.

A hearty vote of thanks to the Chairman terminated the proceedings.

UNITED RHODESIA GOLD FIELDS, LIMITED.

The ordinary general meeting of the shareholders in the United Rhodesia Gold Fields (Limited) was held on Tuesday, at Winchester House, E.C., Sir GEORGE W. R. CAMPBELL, K.C.M.G., presiding.

The SECRETARY (Mr. G. H. St. Hill) read the notice convening the meeting.

The CHAIRMAN said: Ladies and Gentlemen—Though matters have improved, and are improving, this is nearly as cheerless and dull a time for South African directors and shareholders to meet each other as can well be conceived. Nevertheless, we are obliged to meet before the close of the year. Your company was incorporated on December 11, 1894, with a nominal capital of £750,000, of which the working capital was £225,000, all subscribed without going to the public; 660,900 shares, fully paid, have been issued up to date, and 89,100 are held in reserve. Your company took over the whole assets of Frank Johnson and Co, together with some very valuable properties belonging to the Zambia Exploring Company, the Balawayo Syndicate, the Copenhagen Company, the Eripling Land and Mineral Company, the Bambezi Syndicate, and the Northumberland Syndicate. For the Frank Johnson assets which we took over, with certain of their liabilities, as they stood, we paid that company share for share—namely, 200,000 £1 shares in our company, and for the assets of the other companies just named, we paid them 230,000 £1 shares, thus finding £130,000 of the capital. Your company thus came into possession of several large groups and areas of some of the most promising mines and lands in Rhodesia. Our lands and building sites are extensive and valuable, and our mining claims are in such well-known districts as Victoria, Hartley Hill, Panhalanga, Lomagundi, Mazoe, and Umfuli, and some of them have been very favourably reported upon by Mr. Hammond and Mr. Robert Williams. With such assets we were naturally not anxious to acquire further properties at any considerable cost. We did, however, in June, 1895, obtain a concession from the British South African Company of 300 square miles of land north of Zambezi, carrying all mineral rights. What the value of this concession is no one can yet say, but we have made a provisional arrangement for its development by a proposed large company which possesses a still more extensive grant. We have naturally had no very recent reports regarding the country north of the Zambezi, but we know that last year some companies were formed and others were in course of formation, to develop that country, and that these companies had obtained concessions to the extent of at least 1600 square miles, in addition to coal areas of at least 12,000 acres. As regards the progress made in the development of our company, the first year's work consisted in great part in taking over the numerous and widely-scattered, and, in some instances, imperfectly defined properties of Frank Johnson and Co. In February, 1895, we formed our first subsidiary company, the Central Panhalanga Gold Mining Company, with a nominal capital

of £130,000. To this company we handed over 65 of our claims on the Panhalanga range, receiving in return 29,866 fully paid shares of £1 each. These shares, together with the 29,593 which we subscribed for, I trust will turn out a valuable asset, for we have recently received favourable accounts of the mine. Its engineers have lately returned to their local duties, being among the first to resume such work. This has been our only flotation, though, but for the serious circumstances of the country, we had hoped for several others. The only course open to your directors was to watch events, and pending the resumption of active work to cut down to a minimum all expenditure that could be reduced. An expedient to effect further economy and obtain other advantages has been brought prominently before them by their managers and engineers—namely, an amalgamation with the Bulawayo Syndicate. This proposed amalgamation was urged on the grounds that the economy in standing charges, which is so necessary to conserve the working capital of both companies until operations in Rhodesia can be successfully and economically resumed, could be best effected by the combination of two or more companies of good standing and ample working capital. Accordingly, an approach was made by our directors to the directors of the Bulawayo Syndicate, and met with a favourable reception, as it did also from the holders of the majority of the shares in the companies. Many meetings were held, and it was agreed that as the Bulawayo Syndicate with its excellent standing has a much smaller nominal capital than that of the United Rhodesia Gold Fields, the latter should be merged in it, and that a fair basis for the amalgamation was that the shareholders of the United Rhodesia should get one Bulawayo Syndicate share for every two of their own. (Cries of "Shame" and "Disgraceful.") This basis was arrived at from a comparison of the cash in hand and assets of the two companies, and of the market price of the respective shares at the date of the negotiation. The Bulawayo shares at one time stood at 90s., whilst the United Rhodesia Gold Fields shares have never risen above 31s. 3d. I may mention that to-day the Bulawayo Syndicate shares stand at 22s. 6d., whilst our shares stand at 10s., such prices, I need not say, being much below the intrinsic value of the shares. (Hear, hear.) In the event of the amalgamation taking place, it is a stipulation that a right which Mr. Robert Williams, as founder of the Bulawayo Syndicate holds for himself and his heirs in that syndicate so long as it should exist—namely, a right to 10 per cent. of all its profits—shall be commuted to 15,000 fully-paid shares in the amalgamation company, and on the other hand it is also stipulated that in the event of the amalgamation the 54,584 United Rhodesia Gold Fields shares at present held by the Bulawayo Syndicate shall be cancelled. I may mention here that three of your directors, who sit on both boards, did not vote when it was resolved to recommend you to amalgamate, though they acquiesced in the judgment of their brother directors, their managers and engineers, and their principal shareholders. The amalgamation has been urged on the grounds that both companies would save money by having only one board of directors at home and one local board, one set of managers and consulting engineers, one staff and one set of offices, and that certain of their properties being contiguous could be developed more cheaply. Having given a list of the assets owned by the two companies, the Chairman continued: By casting together our lots we should be averaging the value of our properties in Matabeleland and Mashonaland, and we should possess immense areas throughout Rhodesia, and, probably, be able to float many subsidiary companies. Considering that all experts have pronounced the country to be highly auriferous it would be very strange, indeed, if we did not discover some valuable mines. And I need not remind you that the discovery of even a very few good mines would repay all outlay many times over. We who have embarked our fortunes, or part of our fortunes, in South Africa have had our patience tried, and may have it tried still, but the brunt of the crisis has been borne by our countrymen and countrywomen in South Africa. They have acquitted themselves nobly, and among them stands out conspicuously the figure of Cecil Rhodes. But, in the opinion of those most competent to judge, the worst of the troubles are all over, and the others are passing, and Rhodesia will again offer a favourable field for our money and our enterprise. I beg to move the adoption of the report and accounts.

Mr. A. J. MACPHAIL seconded the motion, and explained the items which appeared in the accounts.

Several SHAREHOLDERS complained of not having received a profit and loss account, and of the meagre nature of the accounts presented, and, ultimately, with the concurrence of the directors, an amendment was carried, adjourning the meeting till January 15, and the shareholders in the meantime to be supplied with accounts up to September 30.

The extraordinary general meeting which had been convened to consider the amalgamation scheme was also adjourned to the same date.

A vote of thanks to the Chairman concluded the proceedings.

BULAWAYO SYNDICATE, LIMITED.

The annual ordinary general meeting of the members of the Bulawayo Syndicate (Limited) was held on Tuesday, at Winchester House, E.C., under the presidency of Sir GEORGE W. R. CAMPBELL, K.C.M.G.

The SECRETARY (Mr. W. Milne) read the notice convening the meeting.

The CHAIRMAN said: Ladies and Gentlemen—For some time you have had in your hands your balance-sheet and the report of your directors and manager. I shall now give you briefly—principally for the benefit of such as have not had shares in the company from its beginning—an account of the rise and progress of your syndicate and of its assets. The syndicate was incorporated on November 18, 1893, with a nominal capital of £12,000. It was formed chiefly to purchase farms and claims granted to the volunteers who were engaged in the first Matabele war, and within a month of the formation of the syndicate many valuable interests were acquired at a very low price. The idea of this syndicate and its work, and all its earlier and indeed later operations, originated with Robert Williams, our consulting engineer. On January 30, 1894, the nominal capital was increased to £10,000, and Messrs. Barnato Brothers and other powerful groups took a large interest in the syndicate, an additional grant of 100,000 acres of land being then obtained. At this time Mr. J. H. Hay Hammond became associated with Messrs. R. Williams and Company. With the additional working capital available, further interests were acquired, and the development of certain of the claims was vigorously undertaken. On August 8, 1894, the nominal capital was increased from £10,000 to £50,000, in order to give the Consolidated Gold Fields an interest in the syndicate, and thereby strengthen it. In December, 1894, the syndicate was interested in the formation of two companies—namely, the United Rhodesia Gold Fields (Limited) and the Brand-Grey Syndicate, and derived considerable profit from both these transactions. In February, 1895, proposals were received by the board for the absorption of the Copenhagen (Mashonaland) Company, the Northumberland Mining Syndicate, and the De Beers Prospecting Syndicate, for a total of 39,000 of our shares, and on April 9, 1895, the purchase was approved, and the nominal capital of the syndicate was further increased to £150,000, at which figure it stands to-day. 122,300 shares were issued up to October 31, 1896, the date to which the report is made up. In November, 1895, the shareholders received a bonus of 25 per cent. on the subscribed capital. The accounts show that we still hold in liquid assets a sum of £45,584, besides shares in the United Rhodesia Gold Fields and other African companies to the value of £28,892. The syndicate also owns practically 771 mining claims, with the right to peg out an additional 330,400,000 acres of land, coal, areas, town stands, and other interests. This, I think you will admit, is not an unsatisfactory position for a syndicate which came into existence only three years ago with the small capital of £12,000. With regard to the year which has just closed, we entered upon it with the fullest hope of a continuance of our satisfactory record. In March last your board were busily engaged in arranging

for the flotation of our Hartley Hill claims in conjunction with other companies having interests in the same district, and matters were nearly ripe for the formation of the proposed company when the Matabele rising took place, and arrangements had to be suspended for the time. It may be mentioned also that your board have been in negotiation with the boards of other land-owning corporations, with a view to the formation of a company to deal exclusively with land and town stands in Rhodesia, and it is hoped that before long these negotiations may be brought to a successful issue. Our consulting engineer, Mr. Robert Williams, will shortly return from South Africa, and our manager, Mr. George Grey, is now here. I trust that our consultations with these gentlemen will result in a vigorous and successful course of operations in Rhodesia as soon as possible after the present rainy season is over. These operations will not be confined to mines alone, but will include the establishment of farms and native colonies to work them, the planting of trees, &c.; the latter being matters in which Mr. George Grey has taken a great interest, and been in close touch with the administrator, Lord Grey. To go into more detail, your assets are, roughly, as follows:—Cash and liquid assets, £44,584 0s. 11d.; gold claims, principally in Matabeleland, 771; gold claims, right to peg out, 330; land, principally in Matabeleland, 447,060 acres; 13 coal farms (6000 acres each) on the Gway River, right to peg out two other farms, plumago beds (50 miles from Salisbury), a nitrate of potassium field (100 miles from Salisbury), house, stable, and stand in Bulawayo, four town stands in Victoria; United Rhodesia Gold Fields, 54,584 shares of £1 each, fully paid; Williams's Consolidated (Limited), 2500 shares of £1 each, 10s. paid; Argus Printing and Publishing Company (Limited), 150 shares of £1 each fully paid. Now, ladies and gentlemen, when I have said the little I have to add, we shall ask you to adopt the report and balance-sheet. The secretary will read to you for your votes the resolutions on the notice which has been for some time in your hands, and we shall be happy to answer to the best of our ability any questions you may be pleased to ask us. Our kinsfolk in Rhodesia and we South African shareholders have for a long time now been passing through a very dark and stormy period; but, in my opinion, brighter times are at hand, and the rebellion and the rinderpest, in giving Rhodesia the roads and railways so sorely needed years sooner than it would otherwise have had them, may prove to have been a blessing in disguise. There are still, it is true, scarcity of labour and food and transport, and consequently exorbitant charges. These are being met and provided for, and even now two great companies are being organised—one for the dispatch on a large scale from England to South Africa, and to Rhodesia in particular, of provisions and goods of every description, and the other for the speedy and efficient transport of such goods, as well as of passengers. Altogether, we have every reason to hope that 1897 will turn out a much brighter and happier year than 1896 has proved itself. Gentlemen, I propose:—"That the report of the directors and auditors, and the statement of accounts for the year ending October 31 last, be and the same are hereby adopted." (Applause.)

Mr. JAMES MURRAY seconded the resolution.

A SHAREHOLDER drew attention to an apparent discrepancy in the report regarding the number of claims held by the company.

The CHAIRMAN said that the difference in the number of claims was, in the first place, accounted for by the fact that the Little Bellingwe and the Defiance had never belonged to the syndicate, but had been included by a mistake. The second reason was that several claims had been abandoned.

Mr. WILLIAMS explained that, although the company had abandoned worthless claims, the licenses were still preserved, and these could be used to take up further claims which might be considered valuable.

The resolution was then put and carried.

Mr. BLAKEWELL proposed that the remuneration of the directors should be £2000 for the current year. The work had lately been of a very anxious description, and the directors had given them before a bonus of 25 per cent., which was the only bonus he had yet received from any Rhodesian company.

A SHAREHOLDER seconded the motion.

Mr. MAY thought it would be well to defer fixing the directors' remuneration until the shareholders saw the results of the current year's working. He would, therefore, move as an amendment that the question of the fees should stand over for the present.

Mr. BUNBURY seconded the amendment, which was carried.

The retiring directors (Messrs. James Murray and J. Goldsmith Proctor) having been re-elected, the auditors (Messrs. Frith and Clarke) were also reappointed.

An extraordinary general meeting of the syndicate was then held, to consider the question of amalgamating with the United Rhodesia Gold Fields.

The CHAIRMAN explained that the meeting was called in view of the proposed amalgamation with the United Rhodesia Gold Fields, but that company having adjourned the consideration of the matter, it would be well to follow the same course.

Mr. WILLIAMS said the meeting of the United Rhodesia Gold Fields was adjourned so that the shareholders might have sufficient time to consider the matter of the proposed amalgamation. They also wished to have some further particulars with regard to the accounts. He believed there was a large majority of the shareholders of the other company in favour of amalgamation. The great reason for amalgamation was that the companies might be able to work together in union in Africa. The properties of various companies which were distributed over wide areas adjoined each other in several of the districts, and there would be considerable advantage in regard to labour and other matters. They would be able to have more efficient management in the several districts, instead of having isolated properties. Then, again, they could send out batteries to the districts, which would be able to deal with the ore of the groups of mines. The available capital would be also increased by an amalgamation of the two concerns, and altogether there were innumerable reasons in favour of the course which had been proposed.

The meeting was then adjourned, and the proceedings terminated with a vote of thanks to the Chairman.

NORTHERN TRANSVAAL LANDS COMPANY (LIMITED).

The ordinary general meeting of shareholders in this company was held on Monday, at Cannon-street Hotel.—Mr. Sydney Thompson presided, and remarked that as their farms were mostly in the northern districts, they had not suffered any direct loss from the invasion of the Transvaal by Dr. Jameson. The indirect effect of the raid on the company had, however, been very serious. It had postponed the commencement of the railway from Pretoria northwards for at least nine months, and, as a consequence, the demand which was at the time springing up for land had dropped off. They had also had to deplore the outbreak of the rinderpest, which had swept away the cattle from a number of their farms. The rinderpest would, however, probably be a blessing in disguise, inasmuch as it would lead to the development of the country by railways. One of the greatest difficulties to the construction of railways hitherto had been the opposition of the Boers who possessed oxen. Now that their oxen had perished they felt the need of railways for transport purposes. The board had decided for the future not to let any of the company's farms except at a money rental. In the past they had taken in payment of the rent a percentage of the products and cattle. An agreement had been entered into with the Transvaal Exploring Company, granting them the right to prospect on this company's farms for about two years. They were to receive, as a consideration, 500 fully-paid shares in the other company, and in the event of a company being formed to take over any of their land, they would have one-third of the capital and a minimum of 7s. 6d. per acre. He concluded by moving the adoption of the report.—Mr. E. F. B. Fuller seconded the motion. The report was adopted, and a vote of thanks to the Chairman terminated the proceedings.

LINOTYPE COMPANY, LIMITED.

An extraordinary general meeting of the shareholders in the Linotype Company (Limited) was held on Monday, at the Cannon-street Hotel, to confirm the resolutions for the recapitalisation of the company.—Mr. JOSEPH LAWRENCE (the Chairman) presided. The SECRETARY (Mr. William H. Lock) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—it is my formal duty now to move the resolutions which have just been read by the secretary. They were submitted, as you are all aware, to a full meeting of the shareholders of the company on November 19, and were unanimously passed by that meeting. Now, it is only necessary for us, in two or three words, to sum up the position regarding this reconstruction scheme. We propose by this scheme to create a capital of £2,000,000 sterling, £1,000,000 being preferred shares entitled to a preferential dividend of 8 per cent., and the other £1,000,000 deferred shares, which will take whatever balance of earnings the company may obtain. The capital to-day stands at £1,100,000; £500,000 of that is in ordinary £5 shares, £100,000 in 8 per cent. preference shares, and £200,000 in 1000 founders' shares of £20 each. At the first meeting (a meeting of the founders) a scheme was agreed to, and confirmed subsequently by the shareholders at large, by which the holder of each £20 share was to get £100 in £5 shares of the new company—namely, £200 in preferred shares and £200 in deferred shares. The ordinary and preference shareholders were to get for every (say) 100 shares that they hold in the present company, 140 shares in the new company, consisting of 70 preferred shares and 70 deferred shares. Some shareholders when this scheme was proposed expressed fears that the effect on the securities of the company and in the market would be that the nominal capital of the company, their shares would decline in market value. Well, I have had some particulars taken out, which will deal with that point specifically. Already the Stock Exchange has been dealing, for some days since our last meeting, in the new securities, and the middle price on Saturday, which is not the highest figure—in fact, it is somewhat smaller than the figure on one or two previous days—is that the preferred shares of £5 each are already selling for £6— that is to say, 20 per cent. premium. The deferred shares of £5 each are selling for 27s. 6d., or 43 per cent. premium. (Applause.) Consequently the holder of 100 of the old ordinary shares, who gets under the new scheme, if you finally ratify it to-day, 140 new shares, consisting of 70 preferred and 70 deferred, would get securities worth, at Saturday's market price, £931 17s. 6d. So, practically, for each of his 100 shares, he would be entitled to £9 6s. 43d. per share in money. At the time the scheme was proposed to you the ordinary shares were then selling at £8 10s., so that the fears of that shareholder who thought that the shares would go down in price have not been borne out, because the old shares are worth nearly £1 a piece more to-day than they were then. (Applause.) The effect of the new reconstruction in the case of the founders is as follows:—Each founder gets 40 preferred shares and 40 deferred shares, of a nominal or face value of £400. The market price of those shares to-day is £532 10s., whereas the selling price of founders' shares on the day the reconstruction scheme was introduced to your notice was £400. Now, already the wisdom of the policy of reconstructing and readjusting our capital account, and getting away with these several conflicting interests amongst the proprietors, has been extremely beneficial to the company, and extremely beneficial to each of the shareholders individually and collectively. The next step is the Stock Exchange special settlement and quotation, and already the brokers of the company, aided by other large brokers in the House, have signed the necessary paper, and have applied officially to the Stock Exchange Committee—first, for a special settlement, and that will be followed immediately by an application for an official quotation of our securities. If we can get that—and there is every reason to believe we can get it—we shall then start the New Year with our securities officially quoted on the Stock Exchange, and the company will in every case be in a prosperous condition. I have only formally to move the resolutions.

Mr. BEMROSE seconded the resolutions.

The CHAIRMAN, in replying to questions, said the proposal was in its essence a compromise, because they were endeavouring to pay the founders a sum which would commute, not only the present, but the prospective benefits which they were entitled to get from the company by way of earnings—the prospective benefit which might accrue to them if the company had gone on as it was going on now. As he said then, and said still, he did not think that the actuary was living, or the business man existed, who could possibly, with mathematical accuracy, determine at what point that commuted figure should be fixed. They must not pay the founders at the market price of the day. That would be obviously unfair, and so they used a middle figure between what they thought they had reasonable ground for stating, that they believed they were earning now and what they might be earning five or seven years hence. Unless they had dealt with the founders in a liberal spirit, and unless they had met shareholders in a reasonable and fair spirit, it would have been impossible to have come to an agreement with them, and the company would have been left with an uncertain element in its finances which would have operated in a matter undoubtedly detrimental to the company. He assured them that the directors, and, he believed, a great many ordinary shareholders, thought that, on the whole, they had made an extremely advantageous bargain for the shareholders, and unless there were other strong reasons shown he thought that they would always remain convinced that they had made a good bargain with the founders.

Mr. WHITWORTH said there would be a time (which the Chairman stated at the last meeting to be when they got £100,000 profit) when there would be a great gain to the ordinary shareholders in dividend, and a loss to the founders in dividend in consequence of this conversion. The statement he made, and which was a fact, was that the directors did not at the meeting of the founders' shares carry the proposal which originally was made. It was altered, and the effect of that was an alteration for the benefit of the founders' shares. Therefore, he asked if the Chairman could tell him at what point, so far as dividend was concerned, having regard to the alteration in the scheme, the new terms would put them on the same footing.

The CHAIRMAN, in reply, stated that the figures would be a little higher than under the proposal originally made to the founders, but what they lost in dividend they would gain in the enhanced value of their shares. As to the date from which the dividend should accrue on the shares of this new company, they had carefully thought it out, and taken the very best legal and other advice they could take. There was perfect continuity in the business of the company, and the conversion would take place from the passing of these resolutions, because the new company would probably be registered that evening; and they would also pay—just in the same way as if there had been no reconstruction—the dividends in March next, because they would have their meeting early in March—and would immediately afterwards declare the dividend in the ordinary way. They had fully provided in the agreement for the sale of the new company for the shareholders to have the benefit of any profit that had been earned by the old company, and they would get a dividend in the ordinary way next March in the same way as they did last year.

The resolutions were then carried unanimously.

A vote of thanks to the Chairman and directors concluded the proceedings.

The directors of the ZEEHAN-MONTANA have declared a further interim dividend of 1s. per share in respect of the £1 fully paid shares, and proportionately in respect of shares partially paid, making a total distribution for the year of 15 per cent. Dividend warrants will be posted on the 31st inst.

LAGUNAS SYNDICATE, LIMITED.

The first annual ordinary general meeting of the *Lagunas Syndicate (Limited)* was held on Wednesday, at Winchester House, Old Broad-street.

Mr. ROBERT HARVEY (the Chairman), in moving the adoption of the report, referred to the great loss the company had sustained by the death of Colonel North. Several influential shareholders considered it was unnecessary to carry forward so large an amount as £52,000, and had expressed their desire to have a dividend. As the company was making good profits the board had decided to recommend the payment of a dividend at the rate of 4 per cent. (Applause.) He, therefore, proposed the adoption of the report and the declaration of the dividend.

Mr. GEORGE FLEMING seconded the resolution.

Mr. CRAN asked for information as to the dispute in Chili?

Mr. YULE enquired if the debenture issue was fully registered in Chili, and recognised by the authorities there.

The CHAIRMAN: I am sorry there are not more questions asked, as I was under the impression from the paternal care shown to the shareholders' interests by the gentlemen who sent round a circular that there would be many questions asked, and I could not understand the action of any shareholders in sending around such statements, which would so materially tend to prejudice the interests of the shareholders had they not been here contradicted. You will agree with me that it is advisable, generally, to allow matters in the Press to pass unnoticed—unless one has a newspaper and a good journalist at one's back. But, as this company has not that as one of its assets, we are obliged to allow all the observations in the Press to pass unnoticed, unless it is an absolute libel on the directors, and to await the general meeting in order to explain any matters that may be raised. I think that is the proper way to proceed. The decision will remain with you, and you will express it by rejecting or accepting the balance-sheet and report. Now, with respect to the lawsuit on the grounds, for administrative reasons I must decline to enter into details, but I must tell you this. I presume all the shareholders have had the circular containing the article which appeared in a financial paper on December 2. To begin with, we have in the second paragraph the following statement:—"Owing to the abnormally low prices ruling during the first year of our working, very small profits were made, but during the last five months the prices were fairly remunerative, and left a profit of over £52,000." Well, that is about correct. You are all aware, or most of you, perhaps, who are associated with machinery and undertakings of this description, that the first few months are generally worked at a disadvantage. It takes time to get the material in working order; consequently, the production of nitrate during the first 12 months is rather at a high rate, and you are all aware that the prices realised for nitrate were abnormally low, consequently the profits made during the whole of that 12 months were only about £2000, whereas a little over £50,000 was made during the following five months. When nitrate reached a very good price, and we got into a normal course of working, we produced nitrate at a cost which, I think, compares favourably with any cinca or nitrate works in existence. The writer goes on:—

"From this it appears that the stated profit of £52,000 was all made in the last five months of the period. What has become of the profits—small though they may have been—of the first year? It may be intended to convey to the reader that the figure given covers the profits for the whole of the 17 months. 'It does,' but, if so, the report is very badly worded." Well, I am very sorry if it is badly worded. We thought it was worded in a common-sense manner, and that the shareholders generally would understand it. "The next passage reads as follows:—"The limitation of output as arranged by the Permanent Nitrate Committee gives the syndicate's works a quota of about 100,000 quintals per month, which is being made at a very low cost, and is being sold at a good profit." Well, that is satisfactory enough so far as it goes." I do not know how far they want it to go; it only went five months, and we could not go beyond five months in June. We are eight or nine months on now, and in the same ratio. (Applause.) With respect to the issue of the debentures, when the company was formed we expended all the money, and then we had not completed the machinery; we wanted £186,000 more to pay for the completion of the machinery. We had a certain amount of money in cash, and by the issue of £150,000 debentures we were placed in funds, and we have erected valuable works and machinery, which cost over £304,000. That accounts for the issue of debentures, and I may say that had it not been for our personal friends we should have had very great difficulty in issuing the debentures, because at that time the price was low and nitrate was somewhat under a cloud, through the efforts of some misguided gentleman, probably, and the public generally would not have taken up the debentures. However, Colonel North, myself, and Mr. Lockett succeeded in getting these taken up, and by the assistance of Mr. Welbore Ellis also, for which we are very thankful. That explains the matter of the debentures. The writer goes on to say:—"The profits for the 17 months amount, as we have seen, to £52,000, but it is not proposed to distribute any portion of this sum, but to carry it to the credit of profit and loss. The reason assigned for this somewhat extraordinary proceeding is the pending litigation between the *Lagunas Nitrate Company* and the *Lagunas Syndicate (in liquidation)*, and on this subject the directors condescend to give a little further explanation. They state that the action of the *Lagunas Company* against the old syndicate is for a rescission of the contract of sale and for damages, and that the present company took over from the old syndicate all its assets and liabilities. They add that the defendants claim an indemnity from the new syndicate. This, then, is the reason for the non-distribution of profits. What, however, is not stated is that the *Lagunas Nitrate Company* proceeding personally against the directors of the old syndicate, and that four of those directors are on the board of the new concern." Now, I must say this remark was somewhat of a factor in our action in proposing this dividend to you to-day, to convince you that we do not wish to defend ourselves with your money. We were under the impression at one time that it would be inadmissible to pay this dividend, not because we wanted money to defend the lawsuit, but that it would be reasonable and good working to place ourselves in a strong position with regard to working capital. I may tell you with reference to the four directors on the board who are still in this litigation that those gentlemen hold more than one-half this company's shares. (Applause.) Those four directors are in daily board to look after your interests and their own, and I may tell you that I hold here proxies for 130,000 shares. Consequently, I can carry this meeting as I please—(applause)—but I will not take advantage of my position to win a vote on this matter of dividend, and it shall be for you to decide. But, please, eliminate from your minds that we wish to have your money to defend the action. As we are all solid men, we can respond to any damages which may be cast against us, and do not wish you to bear our burdens in any possible way. (Applause.) You are aware this action was commenced by private individuals against private individuals, but by a general meeting of the *Lagunas Company* the shareholders took on their own shoulders the responsibility of action of these private individuals; but we have not asked you to bear our expenses. The circular goes on:—"In whatever way the pending litigation, which involves a very large sum of money, results, this strikes one as an indefensible proceeding, and we trust that it will be thoroughly discussed at the approaching meeting." That is what I want—for it to be discussed, and I may say that an intermediary used his good offices on behalf of the *Lagunas Company*, the plain till company, and came to a friend of ours, offering or suggesting an amalgamation. He suggested that we should join interests, and so do away with the lawsuit. In order to avoid further litigation and useless expense the idea was not repulsed, although we own two-thirds and the *Lagunas Company* only one-third. It would be a matter of serious consideration as regards the valuation, but after having consulted on the matter—and here I may tell you that we must not take the probability of losing the lawsuit as a factor in my desire to amalgamate—unless it were

desirable for business purposes I advised my colleagues that we had better stick to our own property and let them stick to theirs. (Applause.) The writer of the article says that there is a lawsuit for nearly all the grounds but 16 estacas. It implies that if we lose the lawsuit, we should only have 16 estacas left, but the lawsuit is for 332 estacas over and above our 548, and that is the *suppression* which I complain of. There is a lawsuit for the restitution of so many estacas, but that is over and above these—we have over 800 estacas inside our grounds. (Applause.) Now, in this case the plaintiff is a foreign Government, the Government of Chili, and for me to enter into any details with respect to this matter would, I think, be most unadvisable. (Applause.) But I can only tell you this, that should we win the law suit, we shall be exceedingly well off; should we lose it, it will only make a difference of 10 estacas to us. Now, I think that is such a trivial circumstance that it need not for a moment upset your equanimity. With respect to the registration of the bonds the lawsuit has gone in our favour; we have won the appeal, and the deed has been registered, and when I applied for a quotation on the Stock Exchange I, in common with every Chairman when similar quotations are applied for, made an affidavit that the deed had been registered, as our cables,grams and letters advised us that it had been registered. To my surprise, and the first time in my experience, I received a letter from the secretary of the Stock Exchange saying he would like to see certified copy of the register of that deed. That is a unique circumstance, I think, and one which has never occurred before. I am sorry to have taken up your time, but I suppose these are the vicissitudes of being the Chairman of a company. I am sorry that there is always somebody to minister to a mind diseased in sending about documents of this description. But be assured the directors of this company are working with honesty and fairness in your behalf, and will continue to maintain and show a bold front in carrying out your interests in every possible way. However much we may be harassed and worried, we shall stick to our duty, and carry it out in a fair and honourable manner. (Applause.)

The resolution, on being put to the meeting, was carried with one dissentient.

Mr. WELBORE ELLIS then proposed that the meeting should be adjourned for a month, and to appoint a committee to consider the matters referred to in the report, and the general position of the company.

Mr. YULE seconded the resolution, which, on being put to the meeting, was lost by an overwhelming majority.

The retiring directors and auditors were re-elected, and a vote of thanks to the Chairman and directors closed the proceedings.

TATI BLUE JACKET SYNDICATE, LIMITED.

The third annual general meeting of the shareholders in the *Tati Blue Jacket Syndicate (Limited)* was held on Wednesday, at Winchester House, E.C., Mr. THOS. M. THACKTHWAITE presiding.

The SECRETARY (Mr. N. Clayden) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, said the profit and loss account showed that there had been an expenditure in Tati and London of £6020. Since June 1611 tons of ore had been crushed, yielding 617 ounces of gold, or (say) £2200, and credit for this would be taken in the current year's accounts. The balance-sheet showed the authorised capital to be £120,000; 92,347 shares had been issued. There was a liability of £1 per share on 20,347 shares, which was now nearly all paid. There had been spent for the property to date, including machinery, plant and buildings, £53,770; the battery erection account came to £6112, the stores at Tati and in transit represented a value of £8339; live stock, movable property and office furniture were valued at £1245, sundry debtors and bank and cash balances amounted to £25,071, and the expenditure on the mine amounted to £23,418. The company had now in hand an available working capital of about £20,000, and there were 27,653 unissued shares. The property consisted of 1390 claims, 1000 of which were held under special agreement with the Tati Concession, and had an area of 3435 acres; and 390 claims were held under the local laws, having a total area of 803 acres. The syndicate also had 10 machine areas and water right, altogether 1000 acres. More than half the claims had been taken up since October last year. 500 were acquired by purchase from the Tati Concession, being alternate claims, and by this purchase the blocks of claims of the syndicate became continuous on the reefs. A 10 head battery was erected and working at Tati, and there was a hauling engine at the New Zealand Mine. A large quantity of machinery, including a 20 stamp battery, was on the way, and was stranded between Mafeking and Tati owing to the want of means of transport. Mining had been chiefly confined to the New Zealand and Ver Maaks reef. Towards the end of 1895 a little work was done on the Arab, Darham, Ver Maaks East Extension, and Blue Jacket. Since April last all work had been confined to the New Zealand Mine, the breakdown of transport rendering work outside of Tati impossible. Mr. Schlosser's report gave full details of the work done during the year, and his views upon the prospects opened up. The directors did not consider that these prospects were at all satisfactory. Mr. Francis, one of the directors, who had had great experience in mining, was requested to inspect the mines, and form his own opinion of their condition and of the work which was being carried on. Mr. Francis called in Mr. H. A. Piper, the manager of the Matabeleland Development Company, who visited with him the New Zealand, Ver Maaks, and Blue Jacket properties, and confirmed his opinion. A great quantity of machinery had been ordered, and sent out at great cost, which would not be required for a long time to come. The directors had little doubt that the whole of the machinery which they had purchased, and which they did not at present require, could be disposed of without any loss. Ten head had been erected at Tati, and certain crushings of ore had been made there. It was the intention of the board to erect 20 head of stamps at Ver Maaks reef immediately after the 10 head had been erected at Tati, and then to add the 30 head, the order for which was stopped, making altogether a 50 stamp battery at Ver Maaks. No portion of the 20 stamps had been erected. The mine was now temporarily in the charge of Mr. Evans, who was for a short time Mr. Schlosser's assistant. Although much time had been lost and outlays made which might have been postponed, the directors were glad to learn from Mr. Francis that he considered the syndicate had a good property, which, with proper management, would repay the shareholders for the present disappointment. Even if the properties especially referred to should turn out to be worthless, which they were far from believing, they constituted less than one-fourth of the syndicate's property. They had working capital in hand and unissued shares, and they intended to do their best to prove that they had got a valuable property.

Mr. A. ROBERTSON STEELE seconded the motion.

The motion was unanimously agreed to.

The retiring director (Mr. D. Francis) and the auditor (Mr. Frederick Whinney) were re-elected, and a vote of thanks to the Chairman and directors concluded the meeting.

CASSEL GOLD EXTRACTING COMPANY (LIMITED).

At the annual meeting, in Glasgow, on Wednesday, of the *Cassel Gold Extracting Company*, Mr. Carson (the Chairman), in declaring a 5 per cent. dividend, payable in African Recovery shares, said that the adverse decision in South Africa had been unexpected. They could hardly realise how, with a case so strong, a decision adverse to their patents could have been arrived at, but the British colonies would be governed by the judgment of the Court of Appeal in London. The treatment the *Cassel Company* had met with from first to last was an object lesson to inventors, and showed that the more valuable a patent was the less likelihood there was of the patent being maintained.

WHEAL GRENVILLE MINING COMPANY.

A general meeting of the shareholders in the *Wheal Grenville Mining Company* was held on Thursday at the offices of the company, No. 7, Union Court, E.C., Mr. F. G. LANE presiding.

The SECRETARY (Mr. William Stirling) read the notice convening the meeting.

The accounts showed a balance against the mine at the last meeting of £232. The tin sales have been 263 tons, which realised £9761. The total debits on the general account were £10,908; including labour costs, £6479; merchants' bills, £2139; lords' dues, £393; London office rent, secretary's salary, &c., £55; committee's fees and expenses of meeting in Cornwall, £78. The balance against the mine was £731 10s.

The agents' report was as follows:

The 243 fathom level east of Goold's engine shaft on the south part of the lode is 7 feet wide and well defined, and worth £19 per fathom. But as we consider there is another part of the lode standing north of the present level, we are putting out a crosscut with the object of proving the same, but have not yet reached it. The 223 fathom level east of Goold's is worth £10 per fathom. The 223 fathom level east of Goold's is worth £13 per fathom. The 232 fathom level east of Fortescue's engine shaft is worth £17 per fathom. The 245 fathom level east of Fortescue's is worth £12 per fathom. The 245 fathom level east of Fortescue's is being driven by a boring machine, and although at present is only producing low quality tin stuff, it is showing signs of an early improvement. The 225 fathom level east of Fortescue's is worth £10 per fathom. The 178 fathom level east of Fortescue's is worth £2 per fathom. The 165 fathom level east of Fortescue's is worth £8 per fathom. There are two at the 248 fathom level worth £14 per fathom each. There are two at the 232 fathom level worth £12 per fathom each. There are two at the 223 fathom level worth £11 per fathom each. There is one at the 225 fathom level worth £10 per fathom. There is one at the 233 fathom level worth £11 per fathom. There are two at the 205 fathom level worth £2 per fathom. There is one at the 161 fathom level worth £10 per fathom. —Tribute. There are 22 pitched working by 68 men, tributes varying from 10s. 6d. to 13s. 4d. in the £. Number of persons employed is 496.—Chas. F. Bishop, Jno. Bishop, Stephen Williams.

The CHAIRMAN said: Gentlemen—I regret the absence of our Chairman, Mr. R. W. Goold, from the meeting to-day, but I hope he will soon recover from his indisposition, and that he will again be with us in a very short time. Before proposing the reception of the accounts and report I will just go through the figures in as clear a manner as possible, so that there may be no difficulty in coming to a decision as to passing the same. We began the 16 weeks' account with a balance against the mines of £232 14s. 1d. Our labour costs for the first month and merchants' bills amounted to £2417 17s. 10d., for the second month £2474 4s. 5d., for the third £2619 12s. 3d., and for the fourth £2636 16s. 3d., making a total of £10,948 10s. 9d. Then we have lords' dues £393 3s. 7d., secretary's salary, office rent, and committee's fees and expenses £134 9s. 10d., making a total altogether of £10,908. On the other side we have the sales of tin, 263 tons odd, which realised £9800 10s. 10d. Taking the merchants' bills and labour costs together, as against the sales of tin, the loss on the quarter amounts to £317 19s. 1d. Then there is the debit balance brought forward from the last account of £232 14s. 1d., and the lords' dues £393 3s. 7d., and the other item of £134 9s. 10d., which makes a total of £1,008 8s. 3d. We have, however, received a sum in respect of overpaid income tax, when we were in a more prosperous state, of £376 18s. 3d., so that the balance against the company for the 16 weeks amounts to £731 10s. You will also perceive that there is a loan which we had from our Chairman of £1000, and I will explain the occasion of that directly. Passing on to the report, which is now before you, it is one which I cannot say but that it has caused us a little disappointment. However, all our ends are at the present time, with the exception of one, producing a very fair amount of tin. The one which, I am sorry to say, is not in such a prosperous state as we could wish, is the 248 fathom level east of Goold's. Unfortunately, in driving the level from which we expected very great results we met a horse of granite. This granite we found on the north part of the lode, and through it the lode was cut off—or, rather, the tin-bearing portion—and this reduced the returns very considerably. We had hoped that it would only be a temporary affair, and that by crosscutting a short distance to the north we should have passed out of this granite. Hence the committee decided on the reports we had from our agents that it would be hardly necessary to look upon our accounts in a despondent mood, and we deemed it prudent to prevent what we have not had the opportunity of doing for many years past—that is, to make another call on the shareholders. Therefore, our Chairman offered us a temporary loan of £1000 without any interest for two months, in the hope that we should cut the northern part of the lode at the 248 level, from which, as I have previously said, great results were expected. We were fortified in accepting the offer by a letter from our manager of November 3rd, wherein he said:—"If that lode had turned out as it did in the level above it would have been no trouble for us to have got from it an extra 10 or even 20 tons of tin." Well, only an increase of 20 tons, extended over the two months from November till now, would have met the deficiency in our accounts that are now presented to you. Therefore, we considered it prudent to accept Mr. Goold's offer, more especially as on November 19 our manager wrote:—"I am pleased to inform you that we are getting some branches in the 248 crosscut, which would indicate that we are nearing the north part of the lode. I may say that we have driven the whole of the crosscut in elvan, in which we have discovered during the last two days several small branches of strong-looking tin, which would lead me to hope that something of value may soon be met with. We have drawn two parcels of stuff, which have assayed 13 to 13 per cent. for tin. This is the produce of the whole stuff coming from the crosscut, although no defined lode is yet seen." Under these circumstances, I think we were fairly justified in not giving notice to the shareholders of a call, and we do hope that in a very short time from now we shall be enabled if not to work off the deficiency to, at all event, make a better account than is presented to you to-day. In a letter received this morning the agent says:—"Nothing as yet in 248 crosscut, which is still in elvan. Up to the present it is dry, but I am glad to say the machine end of the 223 fathom level east of Fortescue's is improving, and is now worth £14 per fathom. We may expect a fairly good run of tin ground in this level." Well, for our disappointment in the 248 level we shall quite be able to make up from the improved appearance of the lode in the 223. In the 223 the result up to the present time has been comparatively poor, but it seems that we have now got a very good lode indeed. I am not at all despondent as regards the 248 crosscut. I believe that if it is continued a little further, we shall yet meet with the lode. Although we have driven some 10 or 12 fathoms, still there is a possibility of meeting with the north part of the lode which has been, and is, the ore-bearing part throughout the mine. Now, I think that this will be a sufficient excuse for our taking the loan instead of adjusting, as has always been the case, and is really the correct thing to do in Cost-book mines, the accounts at the end of the quarter. During the 16 weeks under consideration our average cost, including bills, has been £2537 2s. 8d. per month, as against £2578 14s. 5d. in the previous three months. It shows that we have made a small saving in the cost. On the other hand, however, the average price of tin during the 16 weeks has only been £37 17s. 6d., as against £38 5s. 2d. in the preceding quarter, and £40 5s. 9d. in the corresponding quarter of last year. Well, that is a very poor state of affairs as regards the price of tin, and the question is what is the best thing to do? It is no use for us to go on working the mine with the anticipation of a great rise in the price of tin to meet the current expenses. Our aim I think should be to increase the returns, and to do this we must have more development work done. We have had a very good offer made to us by a firm of eminent engineers in Cornwall. They are manufacturers of machinery, and they have offered us drills for a certain time to put in our various levels to open them up quickly. To do this, however, we must have the means at our command. These means we cannot have in our possession unless we make calls upon the shareholders. I do not think it would be right to make calls upon the shareholders in our present position, unless we could get some assistance from our lords. It is no use our lords receiving

their dues and the shareholders paying them, unless more active development on our concern takes place. There is no possibility that I can see at the present time of forming the company into a Limited Liability one, whereby we should acquire an amount of working capital. Still, if our lords would grant us some assistance—we mean some substantial assistance—we might then be able to go, not only to our shareholders, but to the public as well, terms that would be favourable to all concerned. The mine in the past has been a very good mine, and there is no question about it that our returns are satisfactory as far as they go; but the price of tin is too low for us to meet the expenditure. Therefore, the only course open is to endeavour to increase our output; and that, as I have said before, requires capital. That capital, I am afraid, however, we shall not be able to get unless we have some substantial assistance from the lords. Probably we may obtain that assistance, but there has been no encouragement up to the present time for us to believe that we shall. I do not think that I can say anything more in explanation of the accounts, or of our report, but I shall be very happy to hear any remarks that the shareholders present may have to make, and if there is any explanation I can give you, I shall be very happy to do so. I beg to move "That the statement of accounts now presented, together with the agents' report, be received and adopted."

Mr. GULLICK seconded the motion.

Mr. JOLLY said the Chairman had given them a very lucid explanation of the accounts, but he was sorry he did not hold out any hope of an improvement in the next quarter.

The CHAIRMAN: Well, the only hope that I can hold out of an improvement in the position of the affairs of Wheal Grenville is the raising of working capital to develop more quickly. If we are placed in the position that we can drive our levels faster, there is no question but what we could bring the concern into a prosperous state, but as I said before I do not think the shareholders, from what I have heard, will be so ready in finding the necessary funds without assistance on the part of the lords.

The resolution was carried *unanimously*.

The CHAIRMAN: There is only one more resolution to propose. It has been a trying time for our manager and agents, who have done their utmost to reduce the cost to the least possible amount without, however, reducing the labourers' wages. We are quite satisfied that we are getting full work for the money that is paid. I would not force the agents on any account to reduce the cost, and thus make the working arrangements inefficient. Our miners are getting very fair wages, and we are satisfied with the work that they do, and our agents are giving the utmost time to efficiently develop the mine. Therefore, I think that, coming from the shareholders, a vote of thanks to them will give them every encouragement to continue the perseverance and energy they are now exhibiting. I am happy to propose "That the best thanks of the meeting be given to the manager, parser, and agents for their continued care and persevering energy in working the mine."

Mr. JOLLY seconded the motion, and it was agreed to.

A SHAREHOLDER moved a vote of thanks to the Chairman, and also wished to express the gratefulness of the shareholders to Mr. Goold for the loan he had made to the company.

The CHAIRMAN, in reply, said he was sure no one had bestowed more attention to the affairs of the company than Mr. Goold.

The meeting then terminated.

AFRICAN BANKING CORPORATION, LIMITED.

The 12th ordinary general meeting of the shareholders in the African Banking Corporation (Limited) was held on Thursday, at the Cannon-street Hotel, E.C., Mr. EDWARD WEBB (Chairman of the corporation) presiding.

The SECRETARY (Mr. Alexander Duncan) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—When we last met, six months ago, on the occasion of the ordinary general meeting, there were a good many clouds hanging over South Africa—political disturbances, native rising, and the drought and rinderpest—but, notwithstanding all these troubles, the bank seemed to thrive. On the present occasion matters to a certain extent are the same, but in a very mitigated form, with the exception of the rinderpest, and we are still, I am glad to say, managing to get on tolerably well. Our earnings have increased, the net profits are £28,000 this half-year as against £24,000 in the previous half-year. We propose to pay the same dividend as before, placing £10,000 to reserve, and carrying forward the same amount as before, which is about £5000. The accounts which are before you are very simple, and need but extremely few remarks to explain them. The reserve, you will see, is £15,000; note circulation, £81,000; current accounts and deposits, £3,682,000, or £600,000 more than they were on March 31 last. The drafts and acceptances amount to £450,000, or £93,000 more than they were in March. On the assets side the coin in cash is £1,390,000; securities, £223,000; bills of exchange, £1,195,000, an excess of £476,000 over the last account; and bills discounted and loans amounts to £1,639,000, or an excess of £316,000. The bank premises and furniture are very much the same as they were before. The profit and loss account shows a gross profit for the half-year of £59,000, which is more than the last one. The charges on the other side are £31,000, which are less than before. The amount carried to reserve this time is £10,000, to the Staff Guarantee and Savings Fund £2,000, leaving a balance of £12,456, which provides the dividend and the amount to be carried forward. Among the items of debit in the profit and loss account for this occasion you may have noticed the sum of £2000 for staff guarantee and savings fund, and, as it is the first appearance of the kind, I ought to give some explanation of it. When the bank was first started, it seemed apparent in the interests of all—both of the institution and its employees—that instead of leaving the fidelity guarantee of the officers to be provided by outside insurance companies, it was better for the bank itself to undertake them, and to form at the same time the nucleus of a savings fund. To this end our employees contribute 3 per cent. upon the amount of their salary to the fund, and the bank—that is, when the directors think the prospects justify their doing so—a similar amount. The fund thus created guarantees every officer a fixed amount according to his salary and position in the bank, and in the event of any loss repays it. Thus it is the interest of every officer not only to keep straight himself, but to take care that no other officer defrauds the bank, because if such a thing happens it is made good out of the fund in which he himself is interested. We think this is a very valuable feature of the scheme. (Hear, hear.) It also acts as a savings fund account. Every officer is credited with the amount of his subscription, and the subscriptions of the bank itself are carried to the same account proportionate to the sum subscribed by the members. In the event of an officer leaving the bank after 10 years' service he will receive the whole amount which stands to his credit; if under 10 years only the amount which he himself has contributed—that is, providing he is not dismissed for fraud or dishonesty. Hitherto the directors have made no contribution to this fund, exercising their discretion in the matter, but now they think the time has arrived to make a substantial contribution, and hereafter to pay a sum half-yearly of (say) £500. The reason for fixing the first contribution at £2000 was that the fund does not become operative until £5000 has been subscribed. Your employees have now subscribed about £3000, and, therefore, this £2000 of the directors puts the fund in working order. Thus, by the joint efforts of the bank itself and the officers the former is guaranteed against all loss by peculation or dishonesty, and the latter, after a period of faithful service, will each have a substantial amount to their credit unless it has been trenchanted by dishonesty by either themselves or their colleagues. There is another matter on which I should inform the shareholders, which I think they will consider entirely satisfactory. When the bank was first established, six years ago, 100,000 shares were offered to the public for subscription. Only 50,000 shares were taken up, as matters financially did not

look very bright at that time. However, as you know, the bank has been successful, and the balance-sheet, as you will see, adds up to £1 million. The directors now think that it is time we established ourselves on a firmer basis, and, therefore, they have made arrangements with certain parties to take up 10,000 shares at par firm on December 31, and also 10,000 shares more on 30th June next, giving to these same gentlemen the option to take 20,000 shares besides, if they desire them, on the same terms, before June 30 next. If the option is availed of as well as the shares taken firm the capital of the company will then be raised to a million, with £500,000 paid up. This we think will be none too much, we are quite sure we shall be able to employ the money profitably, and that the credit of the bank would be advanced by having a larger capital. (Applause.) In no other country in the world than South Africa could such a succession of misfortunes be experienced as have been during the year now ending without bringing down business to a minimum, and having more injurious effects; but, I think at the same time, that anyone watching the state of affairs must be surprised to hear how very little the country has suffered, and how quickly it has recovered. In the Transvaal, where there was an actual state of war for a short time, succeeded by a great deal of distrust, and yet mines have actually worked through without stopping. They are now doing more than before, with every prospect of doing more again. Property, which usually falls in disturbances of that kind, is now higher than it was, and I think will probably rise higher still. In the Transvaal the Voortrekker now seemed disposed to assist the development of the mines instead of, as formerly, to rather set itself against them. They have lately removed troublesome restrictions and also improved regulations for native labour. In Rhodesia the native rising is suppressed, but, of course, the country has received very considerable check, and will take some time to recover from it. Our branches at Bulawayo and Salisbury have not been able to do anything for some little time, but we have laid the foundations of the business from which we expect to profit as soon as matters settle down. The most serious matter at this moment is the Rinderpest which broke out amongst the wild game in the northern districts, and has been advancing steadily south. It has already swept down through Rhodesia, Bechuanaland, the Transvaal, and the northern part of Cape Colony. By isolation and cattle police attempts are being made to check it, but so far with rather indifferent success. Our own experience some 30 years ago in this country enable us to realize the great difficulties in dealing with this terrible scourge. All transport by ox wagons is now suspended, and, of course, causes a great deal of loss and inconvenience, because it takes both time and money to supersede the ox wagon by the mule and donkey. However, it will have this one great advantage, and that is it will very much stimulate the construction of the railroad, upon which alone a country so large as South Africa can be really opened up. The railway from Cape Town to Bulawayo is now being rapidly laid. The rails have already passed Gaberones; they will be at Palapye by next spring, at Tati in the autumn, and at Bulawayo itself at the end of the year. In the Transvaal, too, the northern line from Pretoria to Pietersburg, which has been stopped on account of the disturbances, is now being actually proceeded with. The trade returns of South Africa generally are very satisfactory, and nearly every article, both of export and import, show a considerable increase. I think, gentlemen, we may conclude that matters are rapidly straightening out, and before very long we shall have a return of prosperity. I beg to propose that the accounts, with the report of the directors, be received and adopted. (Applause.)

Mr. THOMAS RUDD seconded the resolution, and it was unanimously carried.

Mr. ATKINS asked whether the proposed further issue of shares would facilitate getting a Stock Exchange quotation.

The CHAIRMAN said it certainly would do so.

Mr. FIELD enquired whether shareholders would have an opportunity of subscribing for the new issue.

The CHAIRMAN said when some years ago a similar offer was made to the shareholders, only 315 were applied for, and it seemed now to the directors that they had no option but to follow the course they had adopted.

Mr. EWER complimented the directors and the management on the result of the half-year's working, and especially on their wisdom in increasing the reserve fund.

Mr. WILLIAMS thought the shareholders ought to be very much obliged to the board for arranging this new issue, and moved a cordial vote of thanks to the Chairman and directors, which was unanimously passed, and the meeting separated.

THE PARRAL CONSOLIDATED GOLD AND SILVER MINES, LIMITED.

The ordinary general meeting of shareholders in the Parral Consolidated Gold and Silver Mines (Limited) was held on Thursday, at Wincheter House, E.C., the chair being occupied by Mr. DOUGLAS W. WALKER.

The SECRETARY (Mr. J. C. Masters) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—You have no doubt thoroughly studied the report and accounts which accompanied the notice of the meeting sent to you, which has just been read by the secretary, and it will, perhaps, be simpler for the present to take them as read, as is usual on these occasions. When we had the pleasure of meeting you last year, there was, in our opinion, good reason for holding out a prospect of the company being in a profit-earning position in a comparatively short time. I must hold myself to a great extent responsible for putting forward such an optimistic view of the outlook at that time, and you will very naturally expect from me a reasonable explanation of the delay which has taken place, not only in the completion of the mill, but in our arriving at a state of things indicating that we are in sight of the payment of dividends. I will do my best to show you that unforeseen circumstances only have been the cause of such delay. First of all, I must ask you to call to mind the position of affairs as placed before you last September. At that time we had bought our mill and machinery, and were having them put up as fast as possible. But the calculations of the period required for carrying out these operations were several times completely upset in a manner which defeated all our estimates. You are well aware that, even in countries where the seasons are generally very regular, the weather is sometimes unreliable. Last year the autumn rains in the district of Parral were prolonged beyond the usual time and exceedingly heavy, and the transport of heavy machinery and lumber, and the building of the foundations of the mill, and all work of that kind were consequently considerably retarded. Following these late rains there was a spell of cold weather of extreme severity for that locality, and when I was at the mine last June I was well able to appreciate the extreme difficulty and hardship which would be experienced at an altitude of 6000 to 6000 feet above sea level during frosty weather, in carrying on the work of building heavy masonry, and putting up heavy machinery, because in the galleys where such work was carried on the sun did not penetrate until 10 or 11 o'clock. It appears that before the men were fit to begin work they had to light large fires at which they might thaw themselves, for it must be borne in mind that at that time there were no dwellings on the spot, and the men had to spend their nights very uncomfortably. The climate, as a rule, is very favourable, but our building operations were hampered by very exceptional weather, which was the more trying under the circumstances of insufficient and primitive shelter from the elements. The only other important cause of delay was the fact that the milling machinery was in sections, the bolting together of which was a very tedious operation, especially when, in many instances, parts had become so rusted together that great care had to be taken to prevent their being injured. You will understand that a great deal of machinery made for that country is made in sections of 300 lbs. weight. Although at present we have a very good cart road, at the time the machinery

was ordered and manufactured we had not got a good cart road to the mines. When the mill was practically complete and ready to run, the tyres of one of the mills turned out defective, with the result that only one mill could be used. These unavoidable drawbacks were overcome at the end of May, when the machinery, with one mill, was ascertained to run very satisfactorily. As soon as it was new ones were ordered, but by some mistake or other, the new right rise, and consequently within a few weeks, were not of the work. Of course, all these delays and contingencies have resulted in an increased expenditure in connection with the mill. During mentally, with a view of ascertaining the most suitable kind of ore and the best treatment to be adopted for obtaining the largest proportion of the assay value of the ore at the least possible cost. With the view of assisting him in arriving at a rapid and satisfactory conclusion on the subject, Mr. Beckmann secured the services for a short time of a well recommended expert in amalgamation. This man had been employed in many parts of the North American and South American Continent in amalgamation, and his experience extended over a period of 20 or 30 years. He very soon satisfied us that we were not treating ore in the best possible manner, and after several weeks' crushing, it was ascertained beyond doubt that the amount of lead in most of the ore we had been treating made it very unsatisfactory and expensive to attempt to extract the gold and silver by raw amalgamation, and steps were immediately taken to ascertain what was the best form of concentrator to be used. I have now brought you up to the end of the last financial year. Since last July you will be pleased to learn that, although only one mill has been running, each month's work has resulted in a profit, and when I tell you that this profit has resulted from the treatment of low grade ore—carrying 1/2 ounce of gold, and 15 ounces of silver to the ton, which is about half the value of the average grade we have in the mine—from which only 60 per cent. of the assay value has been extracted, you will readily understand that with the two mills at work and the concentrators in operation, enabling us to treat richer ores of double the amount now being treated, such a profit will be realised as will satisfy you all. Meanwhile the tailings are being piled up for treatment later on. We have a very suitable arrangement in the configuration of the ground round about the mill. We have a long gully near the mill down which the tailings are run, while a channel can always be cut in the centre of it to enable the water to be run off, and the tailings can be treated later on with very much ease and economy. Within the last few days we have received a cablegram from the manager to the effect that the concentrator had arrived, and that it would take eight days to get everything in place, so that by this time everything is, in all probability, running satisfactorily, and before the end of this month we should be regularly treating twice as much ore of a much greater value than we have been doing since July, so that we may expect that a day or two after the telegram was sent concentrators and mill would be at last at work. We shall then be able to treat at least twice as much ore as we have been able to do, and ore of a much greater value. Before closing my remarks on the work done during the past financial year and since, I would once more draw your attention to the great value of our property. The amount of development work accomplished, and the body of ore in sight, are facts which can only be thoroughly grasped, by others than those who have experience in mines, by a visit to the mines. The further opening up and proving of the mine by sinking shafts at intervals along the veins are matters to be dealt with in the future; but if the result of such operations corresponds with what has already been demonstrated, and with the opinions of persons in the locality, who, though not interested in the property, are well qualified to judge, I can only say that the shareholders of this company will have good cause for many years to come to congratulate themselves in being the possessors of a very valuable mine. Of course, we shall require to increase our milling plant, but there will be no difficulty in doing that whenever it is found necessary. The way in which the mill has been built has left us a convenient site to have its capacity doubled or trebled if need be. I cannot conclude without saying a few words with reference to our manager in Parral. I made Mr. Beckmann's acquaintance in England some years ago, and from that time until the formation of this company I frequently heard of him through mutual friends, some of whom had known him in Mexico. Since the formation of this company and during my stay in Parral in June and July last, I have learnt to look on him as a man whose heart is in his work, and who never spares himself in any way to make a success of what he undertakes. He has had 30 years' mining experience in Parral and the neighbouring districts, and stands high in the estimation of all who know him. The affairs of the company could not have been under more reliable management. I do not think the accounts require very much explanation. If you have compared our accounts with those of other companies you will find they are much fuller in detail. The items here are almost every instance been kept separate and not lumped, but I may just run through them and explain any items which I think may require elucidation. On the debtor side of the balance-sheet you will find that we are, so to speak, largely in debt. The £1636, which is down as due to the manager, conveys rather an incorrect view of the matter. That amount is the indebtedness of the company at that time in Parral, for which, of course, we are responsible. But since then this has been nearly wiped out. The less account is what the directors have advanced to finance the company and to carry it through. The debentures speak for themselves. On the other side, you will see that we have not much cash in hand, but as money was required it has always been found. The mine stands at the same value as before. The development works have increased in value, though not very much, because they have been suspended until the mill was ready and the concentrators had arrived. You have now got the full cost of the mill, which comes to rather more than we expected, but from reasons, by which I have accounted for the delay, you will readily understand that this has been unavoidable. The buildings at the mine stand at the same value as before. The development works have increased in value, though not very much, because they have been suspended until the mill was ready and the concentrators had arrived. You have now got the full cost of the mill, which comes to rather more than we expected, but from reasons, by which I have accounted for the delay, you will readily understand that this has been unavoidable. 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is less in value than the average of the mine, some of the first class ore having been selected from it, and sent to the smelters. Speaking in answer to another shareholder, the Chairman said that the ore reserves in the mine might be anything between 100,000 tons and 500,000 tons; but there was no doubt that the ore in sight was sufficient to last for many years to come.

A SHAREHOLDER asked what the position of the company was in relation to the debenture holders, and whether there was any danger of foreclosure.

The CHAIRMAN replied in the negative. The debenture interest had been fully met, and if any shareholder had any coupons on the bonds he could obtain payment by presentation at the Union Bank of Scotland. In regard to the directors' fees, he stated that these had never been taken. He himself had worked for four years without remuneration.

The SHAREHOLDER: At the same time, a day of reckoning will come, I suppose?

The CHAIRMAN: We are confidently looking forward to a day of reckoning. The remuneration of the directors is fixed by the Articles of Association, and it was assented to at the last meeting.

A SHAREHOLDER: Do you intend to send out cards to the shareholders when you begin to get returns?

The CHAIRMAN: We do, Sir. We have been rather called to account for not sending out information, but as a matter of fact there has been practically nothing to send out. I should like to make it quite clear on the matter of the debenture interest that the money has been paid whenever due. There has been no question about that.

A SHAREHOLDER: How many tons of ore are the mills capable of treating?

The CHAIRMAN: About 600 tons a month with the two mills.

A SHAREHOLDER: Is the second mill working now?

The CHAIRMAN: I will give you the latest information on the subject. In a letter which arrived this morning, dated Parral, November 23, Mr. Beckmann states:—"I am daily expecting the concentrators, and have everything ready to put them in place, and expect to be able to have them in operation one week after their arrival." A cable received December 2 supersedes that letter, and says:—"Concentrators arrived here yesterday. It will take eight days to get everything ready to begin work. Mine is looking well."

The motion for the adoption of the report and accounts was then put and carried unanimously.

The CHAIRMAN then moved the re-election of Messrs. J. Hay Thorburn and David W. Marwick, the retiring directors, speaking of the large interest they and their friends held in the company, and the time and attention they had devoted to its affairs.

Mr. GOODWIN seconded the motion, and it was unanimously carried.

Mr. THORBURN briefly returned thanks.

The auditors, Messrs. Woodthorpe, Bevan, and Co., were also re-appointed.

A hearty vote of thanks was given to the Chairman and Directors.

The CHAIRMAN, in acknowledging the compliment, expressed the evident hope that on the next occasion of meeting there would be a better state of affairs to present.

The proceedings then terminated.

BARIMA DEVELOPMENT SYNDICATE.

An ordinary general meeting of the Barima Development Syndicate was held on November 14, at the offices of the syndicate, 23 and 24, Robbstown, British Guiana.

Mr. B. S. BAYLEY (Chairman) said they had no regular printed report to lay before the meeting this time, simply because they had nothing from which to formulate such a document. It would be within the recollection of shareholders that, at the last ordinary general meeting, it was mentioned that the first series of blocks, comprising 14 claims, had been sold to a company which was now the Sir Walter Raleigh Mining Company of London. They were also informed that for two other series of blocks, comprising 19 and 14 claims, options had been taken by the same syndicate. Negotiations were then pending for the last series of 16 blocks. These negotiations had been concluded, and agreements drawn up by the company and the syndicate here for all three series of claims. But a condition precedent with respect to these options was that the syndicate, to the satisfaction of the company in London, should have a solid, legal title. They applied to the Government for these grants, and, unfortunately, the Government were so overwhelmed with work that it was not until September last that they succeeded in getting the grants for these claims. The options, of course, only commenced then. The first block that was sold, now the Sir Walter Raleigh, he was pleased to say, was on the high road to success under the management of Mr. Settle, a gentleman of undoubted ability and energy, who was in charge of the Transvaal Albion Gold Mine as general manager. He took charge in July, and had certainly shown great energy in the erection of the machinery and development of the property. It would also be in their recollection that they were visited by a drought lasting from January to July. The Barima was so low that it was impossible to get the machinery to the mine. Since the rains came the machinery had been sent up, and Mr. Settle had made considerable progress, and was so sanguine of starting on January 15 that he had informed his English directorate to that effect. They had received the stock in the Sir Walter Raleigh Company, which formed the bulk of the money received from these claims which they had allotted to subscribers in their respective names. The Chairman, in moving the adoption of the report, stated that the two retiring directors, Messrs. James Winter and Luigi Paila, were eligible for re-election, and that the auditor, Mr. J. R. McLeod, was willing to serve again if elected.

Mr. CARRUTHERS seconded the motion.

Mr. DE JONZ said he would be the last person to try to do anything to place the directors in difficulties, but he was quite sure the board would agree that what he said was necessary. They had sold a portion of their property to the Sir Walter Raleigh Company, and certain moneys had been received and paid out, but no account of these dealings appeared in the statement of accounts before them. It was said in the Articles of Association the remuneration of the directors should be £500 a year, to be paid out of the profits, but the question was what were the profits. In the balance-sheet the property was set down at its original cost, but surely if the block of claims had been sold the value of that block should have been written off, and against that must be put the amount it was sold for, and what amount in shares they had received, as well as the commission of the directors. All these things had not been set out, or, in other words, they had not complied with Section 122 of the Articles of Association, which required that a balance-sheet should be made out, and a statement of the expenditure and receipts laid over in which all monies paid and received were clearly stated. He, therefore, moved that the meeting be adjourned in order to give the directors time to prepare a proper statement.

Mr. ANDERSON seconded.

The CHAIRMAN said that perhaps the members were not aware that the transfer of the shares was not made until after June 30, the date to which the accounts were made out. The directors had not the slightest objection to give the shareholders all the information they might require, and if Mr. De Jonz's amendment were carried, and the meeting adjourned till some future date he would take care that as full and ample

an account as possible would be made out. The directors thought that so long as they showed the balance brought forward, and what had been spent since the previous half-year, that would be sufficient.

The amendment was put to the meeting and carried.

The proceedings thereafter terminated.

MURCHISON GIFT GOLD MINING COMPANY, LIMITED.

The second ordinary general meeting of the Murchison Gift Gold Mining Company Limited, was held on Monday, at the Guildhall Tavern, King Street, E.C., under the presidency of Mr. M. Macfie.

The SECRETARY (Mr. W. Fenton Pugh) having read the notice convening the meeting,

The CHAIRMAN said: Gentlemen,—Before giving an account of our stewardship for the period covered by the accounts, which you have in your hands to-day, perhaps I might be allowed to congratulate the shareholders on the marked improvement which has taken place in the position and prospects of the Company since our last meeting, fifteen months ago. We took counsel with you in the hour of our trial, and we now have pleasure in performing the same duty on the eve, as we have reason to believe, of the prosperity of the Company. On a former occasion, when we were under the necessity of calling you together, we had made a painful discovery, and we did not desire to hide it from you. After taking every conceivable precaution that reasonable men could to safeguard the interests of the Company in the purchase of the mine, we found that we had been landed with a worthless property. We had—at least one of us—some knowledge of the gentleman who came from Australia to negotiate the sale of this property here, and we knew him to be a man of respectable antecedents. We had submitted to us most important specimens from the mine, exceeding in richness the majority of the samples that come under one's notice. We had under the circumstances to consult our engineer, Mr. Fitzgerald Moore, who is now unfortunately deceased, but who had a very wide knowledge of the mining districts of Western Australia, and he advised the purchase of that mine; but it was not until our own manager was sent out and arrived on the spot that we could learn the truth absolutely on the subject. We then, at his suggestion, employed a distinguished expert in addition to the one that he himself took advantage of there, and the united opinion of these men condemned the mine. As trustees responsible for the protection of your interests, we lost no time in acquainting you with the situation, and taking counsel with you as to future action. A mine of apparent promise was offered to us at Lake Lefroy, and you very generously showed your confidence in us by giving us power to issue £60,000 fresh capital in shares of 10s. each, for the purpose of buying and working that property, subject, of course, to the result of the inspection being satisfactory. As Mr. Emery Tyler, one of the directors of the Murchison Gift, then happened to be in Coolgardie in connexion with the business of another mining company, we availed ourselves of his presence there to secure the services of a competent engineer to report on the mine at Lake Lefroy; but at the particular stage of development it had then reached, Captain Vaudry, who was selected to report upon the mine, and who inspected it, found no indications to justify us in entertaining proposals to buy it. But, happily, no sooner did the tide seem to ebb at Lake Lefroy than it rose in our favour at Cue. In Shakespearian phrase we took the tide at the flood, and we are encouraged to believe that it will lead us on to fortune. The manager, assisted by a first-class engineer, tested the Polar Star mine, 24 acres in extent, and both declared it to be a 3 oz. property. On the strength of this report we became proprietors of the mine. The result of operations up to the present considerably exceeds the confident anticipations we had formed respecting the property. Water was struck at 90 ft.; the main shaft has been sunk to 123 feet; 3 other shafts have gone down in the property to the water level; and these various shafts are now all connected by a drive no less than 380 ft. in length. As no battery of our own was available for treating the ore placed on the dump from the lode, upon the strength of which we bought the property, and from another rich lode which has since been discovered, we found it necessary to make use of a neighbouring mill for treatment. Before the machinery of the mill became temporarily disabled, we were able to put through 83 tons out of the 100 tons that had been transferred from our own mine to that mill, and the result was, as has been verified by letter as well as by cablegram, that there was a yield from the 83 tons of 332 ounces of gold—at the rate, in fact, of 4 ounces to the ton, exclusive of tailings, which the manager stated contained the greater part of the fine gold. Probably these tailings were treated by a plant not in all respects suitable for the extraction of gold from refractory ore; nevertheless, 10 dwt. to the ton, in addition to the 4 ounces, happened to come from these tailings. (Hear, hear.) Several months ago the manager, who, I can assure you, is implicitly trusted by the Board, assured us that there were 4,000 tons of ore equally valuable in sight—"I quote his own words"—and a leading journal of Cue states: "Nicer battery stone could not be seen in the district; there is a magnificent body of ore." The manager of the Cue Victory Mine, a man of distinguished repute there, who was employed at an early stage in the negotiations to inspect the mine, came forward spontaneously and reported that he "found a drive showing a nice body of remarkably rich ore, this ore body being distinct from the rich stone discovered by the prospectors, and by continuing the development of the mine at this level other rich shoots will be developed." Now, gentlemen, I have to add an item which is of momentous importance. To crown the edifice of our hopes and wishes a cablegram unexpectedly arrived from Mr. Carpenter, the manager, only on Saturday afternoon last, dated Dec. 5, in the following words: "Rise (that is an ascending gallery at the end of a level) 35 feet; formation in rise assays 45 ounces; assay of tailings 10 dwt. Send as soon as possible plans of battery; bills of lading send direct to Murchison Gift." Surely this latest news which arrived on Saturday is calculated to reassure even the most pessimistic shareholder that can possibly be amongst us. You will not be surprised to know that immediately before this cheering announcement the manager had asked for a 15-stamp battery to be sent. Already pumping and hauling machinery have been forwarded, and its erection will soon be completed, and the directors have arranged for a 10-head battery to be shipped immediately with boiler power for 20 stamps. Within six months this stamping plant will, we believe, be in full operation, and I trust that we may feel warranted within that period in raising the crushing appliances to 20 head. Let me hasten to add that we have paid for the mine, for the pumping and hauling plant, for the extensive and richly productive developments which I have described, without touching one shilling of the £60,000 share capital which you authorised us to raise if it were necessary. (Applause.) If the hopes foreshadowed by my statement should be realised, as I fondly believe they will, then we expect to be able to provide and erect the whole of the crushing machinery without trenching in the smallest degree on the authorised capital. We have arranged with the engineer who supplied the pumping and hauling plant to extend payment for the battery over twelve months. The first payment will not be due until June, and as we hope the battery will be erected in May, we trust we shall be able to pay it out of the ore to be treated by it before that bill falls due. (Hear, hear.) It is for you, gentlemen, to say whether the official record we have given merits your confidence. It is hardly necessary to say that the encouraging stage of progress at which the mine has arrived has not been reached without considerable anxiety on the part of the Board as to how the formidable difficulties they have encountered could best be met. Through good and evil report, through schemes to artificially depress and schemes to artificially raise the value of the stock in the market, despite impatience in some directions, scepticism in others, we have struggled on, endeavouring to combine financial prudence with administrative economy. I have pleasure in proposing the following resolution: "That the directors' report and accounts to the 31st October 1896, be and are hereby received and adopted."

Mr. THOMAS SHARPE seconded the motion.

The CHAIRMAN then called upon Mr. Tyler, who had had the advantage of visiting the mine and of conferring with the manager, to address the shareholders and give his views of the property.

Mr. R. EMERICK TYLER: Mr. Chairman and gentlemen,—I may say that the mine is very well situated. It is only 2½ miles from Cue. When I went there we had to travel 254 miles by coach, but this is all

changed now. I believe the railway is beyond Mount Magnet, so that it will be within 50 miles of Cue, which makes a vast difference. We expect that when our machinery goes out—it will be put on board in a week or ten days—the railway will be right up to Cue, and instead of costing us some £30 a ton we shall probably get it up at the rate of £10 a ton. There is another advantage in our district, and that is that we have fresh water. The great drawback to the Coolgardie district is that the water is salt, but here it is all fresh water, so that there is nothing to block up the boilers or anything of that sort. When I visited the property I formed the opinion that it was a first class mine, but I did not anticipate that it was going to turn out anything so good as it has done. I was very much surprised to find that we had crushed up to 4 ozs., because I consider that if it crushed up to 2 ozs. it would be an excellent property. There is no reason to doubt the richness of the mine. We know that a crushing has taken place; we shall have another very shortly, and I hope it will carry the same amount of gold. We also know that we have got the money for the gold advanced by the bank out there, not that we require it, but it is the usual course. When you hand the gold to the bank they place to your credit a certain amount; therefore, we are satisfied that everything is quite right. (Applause.)

The CHAIRMAN: I may add that so confident are the directors in the statements which have been telegraphed here that, without a single exception, we have considerably increased our holdings.

The AUDITOR (Mr. Criggs) having explained one or two items in the accounts, the motion was put, and carried unanimously.

On the motion of the CHAIRMAN, seconded by Mr. Fowler, Messrs. Criggs, Turkeine & Co., were re-appointed auditors for the current year.

Mr. WEBB suggested that the whole of the development expenses should be put to capital account, so that they could start with a clear balance-sheet, and be in a position to divide the profits at once. He did not suppose that it would be in order to make a resolution to that effect at the present meeting, but the auditor might consider the point.

Mr. STANHOPE JONES proposed a vote of thanks to the Chairman and Directors for their able management.

Mr. FOWLER seconded the motion, which was unanimously adopted.

The CHAIRMAN briefly acknowledged the compliment, and the proceedings terminated.

THE WEARDALE LEAD COMPANY, LIMITED.

The ordinary general meeting of shareholders in the Weardale Lead Company (Limited) was held yesterday, at the Cannon-street Hotel, the chair being occupied by Mr. GEORGE RICHARDSON.

The SECRETARY (Mr. R. S. MacLaran) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We regret the character of the statement we are obliged to make to you showing a loss of about £880, but at the same time we feel that we have done all we could to keep down your expenses to the lowest possible figure, and that there is nothing we can do that will show a further reduction for the next year, excepting that we shall probably be able to reduce the London expenses by, perhaps, a couple of hundred pounds. You will observe that we have raised less during the 12 months ending June 30 than last year—in fact, 6746 bings against 6970. We have also dressed less, smelted less, and, naturally, the quantity of lead produced has been less. All that has been occasioned by the poor quality of the mines, which, we regret to say, has continued, with the exception of Boltburn, which continues to hold its own, and to bear the burden of the greater part of the loss that has been incurred on the other mines. I may say that latterly Boltburn has turned out better than it has ever been; it has been increasing. Sedling has been, I regret to say, a great disappointment to us. When we started that lease we had all the information that was possible from every person in the neighbourhood, and in the light of what was said we thought it would be a good thing to make this Sedling trial. We regret to say that it has not come up to our expectations, and that probably it will be considered wise for the time being not to spend any more money upon so unprofitable a mine. Killhope we have opened up again, and it looks as if that mine might become of importance again. You are aware that four years ago the water came in, and it is only lately that we have had that water out, and have commenced to open the mine up. We expected that we should have done more than we have at the present moment, but the air is bad in consequence of the mine being shut up for some time. We are, however, now getting into a position where, we think, Killhope will be a fair mine. In former years, when we worked it, it was one of those mines which gave very good returns, and we think now that we shall not be disappointed in getting some returns from this mine. With regard to Greenlaw, Mr. Maxfield will tell you exactly how that mine stands to-day. That will show you exactly how we stand to-day in regard to your mines, and the other point for consideration is simply that of the accounts. Now, we have sold £23,000 worth of lead, and we have realised an average of £10 17s. per ton. That is the net figure Parkhead. Of course, when you see the quotations in the papers of Newcastle, you are aware that there is a cartage at railway rate of 6d. a ton to Newcastle, and that we only deliver at Parkhead. By referring to the report you will see that we are in hopes that we shall be able to make an arrangement with the Commissioners as before. At present the matter is not quite adjusted; in fact, we are in negotiation now. We hope that, as heretofore, they will be generous to us. Referring to the accounts, you will see that the "rations and taxes" are less, the travelling expenses are less, the London office expenses are a little less, and the insurance fees are the same. The debenture is £1500, and the other interest is £574, against £702. Consequently you will see that, taking one side with the other, although we show a loss of £880, we have managed to effect a reduction in nearly everything over which we have had actual control. So far as the lead trade is concerned, I may mention that the price went up to £12 a ton. Since then it has gone down a little—it is now £11 15s.—but we have sold ours at £11 17s. 6d. at Parkhead. (Hear, hear.) Now, I will move the adoption of the report and accounts formally, and if there is any question to be put I will answer it to the best of my ability.

Mr. HOPKINS said he had much pleasure in seconding the resolution. He did not know that he could add anything to what the Chairman had said. The broad facts were that they had got one good mine, two middling ones, and one that was very bad. They hoped and had some reason to expect that Groverake Mine would improve, and that from the Killhope Mine they would get some rich ore. Greenlaw, at the present time, did not look very flourishing, neither did Sedling.

Mr. PETREBRIDGE asked whether the men's wages could not be reduced. He noticed that they were £23,000 last year, and during the current year they had spent £20,000 more, and the price of lead had been better, being 25s. 6d. per ton. In spite of this, however, they had produced less, sold less, raised less, and smelted less. The shareholders and the lords seemed to get nothing out of the mines, and, therefore, he thought it was time the workmen gave up a little. He also wished to know how they were going on in the present year, whether, so far as they had gone, it had turned out better than the past.

The CHAIRMAN said, in regard to the wages, they felt that they were as low as could possibly be paid. During the year under review the average cost was £2 14s. 10d. a bing, while during the six months up to date it was £2 13s. 2d., thus showing a small reduction. The men individually got from 12s. 6d. to 15s. a week.

Mr. W. J. FOSKETT remarked that in the report the amount realised by the sales of tin was put at £23,224 12s. 10d., but in the balance-sheet the item for the sales of lead was £23,399 0s. 3d. Had the directors any explanation to give to account for this difference?

The CHAIRMAN said it was the difference between the stock going in and going out.

Mr. BLENKIRON said on the last occasion the Chairman told them that they had practically turned the corner. Well, the corner had been turned by raising less than in the previous year. They seemed to have lost considerably during the year, for 90 tons were taken from the reserve. With the hopes and prospects promised them, but not yet fulfilled, they still hoped and believed that there was

a brighter future before them. In conclusion, he contended that a change in the management both in London and at the mine was desirable.

Mr. W. J. FOSKETT called attention to the financial position of the company, which, to his mind, was a most serious one, and demanded immediate attention. They had no capital behind them, and how they were to go on he could not understand. As far as the debentures were concerned, they were liable for uncalled capital, which amounted to £2 10s. per share. Personally, he had strong objections to borrowing money for carrying on a mine with such uncertain results. It was bad enough to lose any money, but when it came to borrowing from others, at the rate of 6 per cent., he thought the sooner the company ceased to exist the better. He quite thought in 1893 he had come to the conclusion that if the Sedding Mine did not turn out well they would abandon it. However, he thought they should that day address themselves to the financial position only. Unless they did so he was quite sure that there was no hope for the company. Besides the debenture interest he noticed that they paid from £600 to £700 for other interest. That seemed to represent a loan of £12,000, and he would like to know if it was secured in any way. As to the £25,000 of debentures, this, he believed, was due in six months' time—in July, 1897. He also asked on what basis the stock was valued at the figure entered in the balance-sheet.

The CHAIRMAN said the stock was valued at £10 12s. 6d. per ton. With regard to their liabilities, they had been going on from time to time as floating liabilities. If, however, the shareholders desired them to be cleared off the directors would make a call and get rid of them. They expected that the debentures would be renewed in July next. Their position was no worse now than for some time past. Of course, with all mines it was a question of hope—there was nothing permanent in any mine, whether situated in Australia or Africa—and they hoped, and had always hoped, that they were going to do better than they had done. The reduction in the London expenses would take place in this way—the secretary's salary would be reduced £100, the office expenses would be reduced by £50, and another £50 would come off the general expenses. During the last four months—from June 30 to December 5—they had produced 2153 bings, as against 2547 bings in the same period of last year. They had also smelted 200 tons of ore.

Mr. HOPKINS said one point on which an explanation was required was Mr. Blenkiron's statement that when he was down in the Sedding Mine he saw a vein which had been passed. If he was correct, why did he not speak about it at the time?

Mr. BLENKIRON said he told Mr. John Thompson of the matter, and advised him to work on it.

The CHAIRMAN said he was down at the mine at the same time as Mr. Blenkiron, but the matter was not mentioned to him.

Mr. FOSKETT wished for a reply to his question as to whether there was any security given for the loan of £12,000.

The CHAIRMAN replied that no security was given.

The resolution was then put and carried unanimously. Mr. MAXFIELD, referring to the remark made by Mr. Blenkiron as to the vein in the mine having been missed, said it was very often the case that the Wensleydale veins were in two parts, and in the particular instance remarked upon there was a part which carried the lead of the vein, and another part which carried the spar. It was always safer to follow the lead, and at Sedding, after following the lead for a few fathoms, they found they were wandering rather way. They had one or two men behind on tribute, and to cross up in the vein, which was uncovered in the level, and found that the spar was off. They, of course, instantly stopped, for it would have been unwise to continue driving. They crossed into the spar and followed it, and as long as there was spar, they would follow it. But he could affirm that they had never lost that vein since they started from the shaft. The most hopeful mine they had at the present time, according to his judgment, was the Boltsburn, about which he had had a letter that morning stating that the ventilation had very much improved, and that the writer had "never liked the prospect better" than at the time of writing. The letter stated that the "flats" were very strong and healthy both to the north and the south, and there was every encouragement to continue opening up. As to Groverake, the directors had seriously considered shutting the mine down, but they thought that, seeing the interests at stake, they would sink down into the limestone from the 60 fathom level. Accordingly they put down a sump there, and discovered that there was every prospect of the vein being richer than in the quarry-bazel above. They intended to work it now in a proper manner, and if they were only as successful as they hoped to be, they would be able to continue working Groverake over again. With regard to Killhope, they had sunk a shaft, and taken out the water, and the mine was now doing fairly well, although they had not been able to get to the far end on account of the bad atmosphere.

Mr. F. G. LANE thought every point brought up in the discussion had been satisfactorily explained, and considered that the directors were doing their utmost in the shareholders' interest. Mr. Maxfield had drawn attention to several points in the mines which were really improving, and his hopes were that these points would develop to such an extent as would give them better returns at their next meeting. He thought, therefore, they ought to congratulate themselves that the directors were doing so much in their interests. They were cutting down expenses to the lowest possible point; in fact, he did not like to see the salaries of the staff reduced. After what they had heard from their Chairman and Mr. Maxfield, he considered that they could not do otherwise than express their confidence in the management.

The CHAIRMAN then moved the re-election of Mr. Hopkins as a director of the company.

Mr. LANE seconded the motion, which was carried.

Mr. W. FAWCETT said a wish had been expressed by the shareholders in the North that they should be represented on the board, and he therefore proposed that Mr. J. C. Swan be elected a director of the company.

Mr. J. S. WILSON seconded the resolution, and it was carried.

Mr. James Fraser was elected auditor of the company, and a vote of thanks to the Chairman and directors concluded the meeting.

LONDON-PARIS FINANCIAL AND MINING CORPORATION
The Hon. Henry A. Lawrence presided, on Monday, at the ordinary general meeting of this company, held at Winchester House, and, in moving the adoption of the report, said the history of the corporation had been practically the same as the history of South Africa during the same period. But they had by no means lost faith in their securities or the country, and they deemed it better not to realize until times improved. They already represented 21 different companies on the Continent, which brought them in £6000 a year. In exchange for this payment the Continental shareholders expect to be kept informed of all that was going on, and he felt confident that the money expended in getting together such a large clientele had not been lost. They were now, however, working 25 per cent. cheaper than at the time of the construction of the company, and 50 per cent. cheaper than at the time of their highest profit. They hoped to make further reductions. Although they had a profit of £45,000, it was deemed best to carry forward considerable sum in the present state of the market, and not to declare any dividend at present. If six months hence there was a more solid state of things, they would declare an interim dividend. The directors were so confident in the future of the undertaking that they held 125,000 shares in the corporation, or over one-fourth of the whole capital. Mr. H. C. Bucknall seconded the motion, which was carried with acclamation, and a vote of thanks to the Chairman terminated the proceedings.

RICHARD HORNSBY AND SONS (LIMITED).

An ordinary general meeting of shareholders in this company was held on Monday, at the Cannon-street Hotel. Mr. James Hornsby presided, and, in moving the adoption of the report, expressed regret that they were unable on that occasion, for the first time in

the history of the company, to pay a dividend, the year's working showing a loss instead of a profit. Circumstances had been too strong for them to make a profit during the past year, but the company was financially in a strong position, the liabilities being small and the cash, book debts, and stocks being large. A heavy stock of harvesting machinery had to be carried forward last year, and the shops and plant usually devoted to making that class of machinery had therefore been working short time, most of the required stock having been already made. The further improvement of the oil-engine trade in various new directions was proceeding as rapidly as possible. They had supplied the first oil locomotive to Her Majesty's Government, and their engine had been adopted by the United States Government for fog signals upon their lightships. He and his brother had bought, but had never sold, shares in the company, in the capital of which their family held £175,000. After serious consideration of the position the directors had thought it right to strengthen the board, and they proposed the election of two new directors—men of great experience and connected with successful enterprises—he referred to Mr. H. Simpson Gee and Mr. Edward Wood, both of Leicester. Mr. H. Johnston seconded the motion. The Chairman, in reply to question, stated that since the date of the balance sheet £68,612 had been received of the £94,000 of sundry debtors. Mr. Tongue, of the firm of Messrs. Edwin Collier and Co. (the auditors), stated that the sales in the past year had been more than in the previous year, but the output had been less. The working had been adversely affected by special charges amounting to nearly £18,000. The report was unanimously adopted, and Messrs. Gee and Wood were elected directors.

NEW ZEALAND JOINT-STOCK CORPORATION (LIMITED).

The first ordinary statutory meeting of this company was held at the Cannon-street Hotel, on Monday. Mr. A. W. Biggs, the Chairman, said the company was registered early in August, and since then 100,000 shares had been applied for and duly allotted; 10s. per share had been called up, which gave them a working capital of £50,000. There was still a liability of 10s. per share on these shares, but they did not intend to call up this capital, as they thought it of interest to the company to retain it as a sort of final reserve. It was also their intention, as they made profits, to carry a large proportion of them to the reserve fund, so that year by year they would accumulate. During a large portion of last year business generally was quiet, and the company were wise in embarking in no large schemes until the outlook cleared. Since then, however, they had made up for lost time. They had now several businesses in hand which, without the slightest doubt, would result in considerable profit to the company. The company was promoted with the object mainly of doing business in New Zealand, a country which was likely to become one of the most profitable gold producing countries in the world. Their company had special facilities for prospecting and acquiring mines; they had already an interest in two properties, the prospects of which were very promising, and, in addition, they had identified themselves largely with the northern territory scheme. The northern territory had long been known to be exceptionally rich in gold, and the directors looked forward with the greatest confidence to the realisation of handsome profits in connection with that particular district. It was likely to be one of the finest properties in any part of the globe, and without being too sanguine, he had no fear as to the future, especially as during the few months the company had existed they had already succeeded in making a handsome profit. (Applause.) Mr. R. B. Tetley endorsed the Chairman's remarks to the satisfactory prospects of the company and the wonderful development in gold mining which he predicted for New Zealand.

ST. AGNES GOLD REEFS (LTD.).

The first ordinary general meeting of the shareholders in the St. Agnes Gold Reefs (Ltd.), was held on Monday at Winchester House, E.C., Mr. A. H. Lancaster (Chairman of the Company) presiding. In moving the adoption of the report and accounts, the Chairman said the more the reefs on their property were developed the more satisfied were the directors of the value of the mine. The deeper they went down the richer the reefs became. The machinery would have been erected before now but they had had the water difficulty to contend with. However, at a depth of a little over 175 feet water was found in a neighbouring mine, and therefore, seeming to think No. 1 shaft was almost down as deep, they hoped to soon make a similar discovery. Mr. Bond, sen., one of the directors, had recently visited the mine, and had written that it was the general opinion in the neighbourhood that the St. Agnes was the best mine as yet discovered in the Norseman district. Mr. N. C. Cookson seconded the motion, and it was agreed to. Messrs. W. B. Peat & Co. were re-elected auditors, and a vote of thanks to the chairman concluded the meeting.

NEW GUADALCAZAR QUICKSILVER MINES (LIMITED).

The second ordinary general meeting of the shareholders in the New Guadalucazor Quicksilver Mines (Limited) was held on Tuesday at the Cannon Street Hotel. Mr. William Furber presided, and in moving the adoption of the report and accounts, said that the accounts before the shareholders were somewhat different in form to those ordinarily submitted. The proceeds of the quicksilver used to give the net amount received from the consignees after deducting freight and commission, but they now thought it better to give the gross amounts and show the freight and commission paid. As with the present condition of the mines, the fact that the ore had pricked out could not be by any way laid at the door of either the directors or managers. The mine, it was true, was unfortunately pocketed, but it was a rich mine, and he was hopeful as to the ultimate future of the company. Mr. E. M. Goslett seconded the motion, and explained, with regard to the quicksilver held by the bank as security, that the directors had refrained from selling that quicksilver, because they were advised they could get a better price by holding it back, and the event had justified that policy. He strongly recommended a policy of not declaring dividends until they had actually earned the money and strengthened the position of the company, and he expressed his confidence that the company was now in fair way for making good progress. After considerable discussion during which an amendment for the appointment of a committee of investigation was proposed and withdrawn—the motion for the adoption of the report and accounts was carried.

BENDIGO DISTRICT GOLD MINES OF VICTORIA (LIMITED).

The first annual general meeting of the shareholders in the Bendigo District Gold Mines of Victoria (Limited) was held yesterday, at the Cannon-street Hotel, when Mr. L. Campbell-Johnston, the Chairman, in moving the adoption of the report and accounts, said they would remember that the four mines they acquired from the London and Victoria Syndicates were old workings which had been abandoned in consequence of the former owners being too poor to provide the necessary pumping machinery to deal with the water. Work had so far only been done on the Beautiful Venice and Curly Dog leases. In addition to the properties already mentioned, another lease had been secured; it was called the Staffordshire, and a subsidiary company was being formed to work it. Information they had received from the local authorities in Victoria proved that the Beautiful Venice was a valuable property, although the ore in the Staffordshire was of a low grade—a 5 ton sample yielded 13 dwt. a ton, there was an immense amount of stuff, and, therefore, it could be worked at a profit. A cablegram received yesterday stated that the present depth of the shaft on the Beautiful Venice was 290 feet. Water impeded work, but the sinking of the shaft had been discontinued, and a crosscut started at a depth of 285 feet. They expected to meet the lode in at least eight weeks. Mr. Van Praagh seconded the motion, and said the company had ample working capital to ensure the success of the undertaking. The resolution was carried.

GOLDEN PLUM CONSOLIDATED GOLD MINES (LIMITED).

The adjourned annual general meeting of the shareholders in the Golden Plum Consolidated Gold Mines (Limited) was held on Thursday, at Winchester House, E.C., under the presidency of Mr. S. de Liss. The Chairman explained that the meeting was adjourned in order that the directors might present a written report.

All work had now been stopped at the mine, pending a settlement of the financial position, total exemption from labour conditions having been granted by the West Australian Government for one month from November 15, so that expenditure for the present is reduced to a minimum. Mr. Alfred Morgans had been instructed to inspect and report upon the mine, and the telegraphic summary of his report would be published as soon as received. In the event of Mr. Morgan's report not being favourable to further development of all or any of the existing leases, the Barrage Syndicate had offered to transfer to the company, free of cost, three leases of equal acreage in the Black Flag district, provided a committee of the shareholders of this company approved the same after full examination by and report of experts nominated by them. In the meantime, however, the financial position of the company required further attention, as on the expiration of the month of exemption further expenditure would become necessary to avoid the forfeiture of the property. After a long discussion the report and accounts were adopted. Afterwards an extraordinary general meeting was held for the purpose of considering resolutions for the reconstruction of the company, but the matter was adjourned until the report of Mr. Morgans was received. The proceedings closed with a vote of thanks to the Chairman.

MOUNT CHARLOTTE GOLD COMPANY (LIMITED).

The annual meeting of the shareholders was held on Wednesday, in Edinburgh, Mr. James Romanes, C.A., presiding. The annual report stated that the company's accounts to June 30 last from the commencement of the company's operations show that of £40,000 reserved for working capital £22,018 7s. 10d. had been expended. The Chairman, in moving the adoption of the report, said that the principal efforts of the manager and the principal interests of the directors and the shareholders had for some time been very much concentrated upon the deep shaft which was being sunk at the south end of the property, called the Murray lode. At the date of last meeting this shaft had been sunk half the present depth. The result so far had been rather disappointing. The lode was extremely large, and correspondingly poor, and they were advised it was the proper way to continue sinking down to the lower levels, where it was expected the lode would be contracted, and be very much richer. The work was now going on, and he hoped within a few weeks they should hear that the lode had been reached. There was one rather important element in the last report, which was that water was increasing. It was proposed to make a somewhat radical change upon the board, reducing it from seven members to four, and the fees, of course, would be reduced accordingly. Mr. Robertson, Dundee, seconded the motion, and the report was adopted after some discussion.

GREAT GOLD ZONE MINING, EXPLORATION, AND ESTATE COMPANY (LIMITED).

An ordinary general meeting of the Great Gold Zone Mining, Exploration, and Estate Company (Limited) was held on Wednesday, at Winchester House, E.C. Mr. H. Ballie-Weaver, who presided, in moving the adoption of the report and accounts, said that when he joined the board three years ago he found affairs in a deplorable condition, the whole of the working capital having been expended, and the only money available for the conduct of the company being the interest receivable from the Portuguese Government on money deposited by the company as a guarantee for the fulfilment of the conditions contained in their concession. Since that time he had consistently devoted himself to trying to extract for the shareholders some benefit for the money they had invested in the enterprise without asking them to subscribe any more capital, and to put the company on a sound legal basis. With this object he had attempted to negotiate a contract with a Parisian firm by which the company would be furnished with sufficient money to carry on their operations. This unfortunately had fallen through, and what he had feared most had happened—viz., that the Portuguese Government were preparing to take action against the company on grounds which he was afraid they would have some difficulty in resisting. The Portuguese Government had issued to their colonial governors instructions to inquire into the cases of all companies holding concessions in Portuguese territory as to what they were doing, and what money they had got for the purpose of carrying on their operations. In their own case this step would probably lead to the cancellation of the company's concession. Having struggled for a long time, he had come to the conclusion that the only possible course for the company were liquidation and reconstruction. The report and accounts having been seconded, were carried, and after some discussion as to the position of the company, the meeting terminated with a vote of thanks of the Chairman.

VOGELSTRUIS ESTATES AND GOLD MINES (LIMITED).

The ordinary general meeting of the shareholders was held on Wednesday at Winchester House. Sir Donald Currie, M.P., presided, and, in moving the adoption of the report, stated that the company to which the mynacht was originally granted transferred it to another company, but without any success on the part of the new company. After a considerable period and much negotiation, the debenture holders took over the property and formed the present company with an authorised capital of £200,000. In order to have a working capital he assisted in carrying out the subscription of £50,000 at £1 per share, and the development showing every prospect of successful results, there was ultimately an issue of 50,000 shares at £3 per share, thus securing to the company a working capital of £200,000. The financial position having been secured, the co-operation of Mr. Goodwin and Mr. Skinner, of the Durban—Roodeport Company, was obtained, and the best system of shaft sinking and mine development, with suitable engine and pumping arrangements, was adopted after the most careful consideration on the part of the directors. The 80 stamp battery was now at work, and by reason of the mine of ore that had already been developed they might look for an uninterrupted run of the mill in the future. At present they were directing their attention to the development of less than half of the outcrop claims of their property, independently of the dip claims, estimated at about 135, which should add to the longevity of the mine. He was indisposed to make any prophecy as to the possible dividends the shareholders would receive in the future, but he hoped they shared with the board the expectation of a reasonable and successful issue to the efforts which had been made to carry out their enterprise. Having stated that the local management had secured a sufficient number of Kaffir workmen to conduct operations at the mine, he concluded by reading a following cablegram from the manager (Mr. Skinner) dated the 8th inst.—"Machinery works well. Mine is looking very well. Good results permanently." Mr. J. S. Prince seconded the motion, and after some remarks from Mr. J. A. Roger (a member of the Johannesburg board), the report was adopted.

THE PESTARENA UNITED GOLD MINING COMPANY.

The report of the directors shows that the results of the year's operations have been very satisfactory, and the profit obtained has exceeded that for any other similar period. The gold produced realised £30,706 1s.; other items appearing in the revenue account, including increase in stock of ore, amounted to £2208 0s. 1d., making a total of £32,914 1s. 1d. The expenditure in Italy and England amounted to £22,501 0s. 1d. The profit for the year was, therefore, £10,322 1s. 4d.

The appeal from the Lord Mayor's decision in the Jagger Trade Mark case stands for hearing next week in the Queen's Bench. The question raised was of general importance, namely, whether the trade mark of an English firm, containing English words, without any words to indicate that the goods are not of home manufacture, may be placed on foreign made goods after they have been imported into this country. Mr. Frank Safford will appear for the Board of Trade, while Mr. Cock, Q.C., and Mr. Cutler will represent the company.

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EAGLEHAWK CONSOLIDATED GOLD MINING COMPANY (LIMITED).

The first ordinary general meeting of shareholders in the Eaglehawk Consolidated Gold Mining Company (Limited) was held on Wednesday, at Winchester House, E.C. Mr. G. E. Keith presiding. —The Chairman, in moving the adoption of the report and accounts, stated that the reef was struck in September last about 40 feet in the 1300 feet level. It was fully a foot wide, with a good footwall underlying to the west. Since that time further development work had taken place, and the ground had become very favourable. There were a quantity of quartz leaders to be seen, and there was every indication of the reef being brought back more into its natural course, making in parallel line with that from the surface to the 300 feet level, and that a similar shoot of gold would be met with. —Mr. E. B. Woodford seconded the motion, and it was agreed to.

GRESHAM GOLD EXPLORING COMPANY (LIMITED).

The ordinary general meeting of the Gresham Gold Exploring Syndicate (Limited) was held on Thursday, at Winchester House, E.C.—Mr. James John Wallis, who presided, in moving the adoption of the report and accounts, said that there had been a cash profit for 12 months of £10,292 2s. 1d., earned with a capital of £13,552 10s., or equal to a profit of about 75 per cent. Of this amount, two interim cash dividends had been distributed, amounting 40 per cent., besides bonus distribution of shares in one of the subsidiary companies. In arriving at this cash profit, the directors had taken no value for the 15,463 fully paid up shares which had been earned as dividends and commissions, and which had been placed on one side pending their realisation. The smaller investments had been written down over 50 per cent., and chiefly consisted of shares held in the subsidiary companies of the syndicate.—Mr. F. S. Boully seconded the motion, which was agreed to without any discussion. —On the motion of the Chairman, the following resolution was adopted:—"That the balance sheet of the syndicate be made up annually to June 30 in each year, and that the general meeting of the shareholders be held as soon thereafter as possible so that the directors may from time to time determine." He explained that this was necessary, as no time was specified in the company's articles.—The proceedings then terminated.

SAM'S WEALTH OF NATIONS GOLD AND EXPLORATION (LIMITED).

An extraordinary general meeting of the shareholders in the Sam's Wealth of Nations Gold and Exploration (Limited) was held yesterday, at the Cannon-street Hotel, Mr. W. H. Talbot presiding, for the purpose of confirming the resolutions for the reconstruction of the company.—The Chairman formally moved the confirmatory resolution, which was carried with one dissentient. In thanking the shareholders for their attendance, the Chairman said the support given to the scheme would inspire the directors with an increased desire to do everything they possibly could to develop the property to the utmost possible extent.—The usual compliment to the Chairman concluded the meeting.

TAMWORTH GOLD MINING COMPANY (LIMITED).

An extraordinary general meeting of shareholders in the Tamworth Gold Mining Company (Limited) was held yesterday, at Winchester House, E.C., for the purpose of considering and, if thought advisable, passing resolutions voluntarily winding up the company for reconstruction.—The Earl of Donoughmore presided, and, in moving the resolutions, said that there could be no doubt as to the value of the property owned by the company. The shareholders had a first-class mine, and one that was very fully developed. It was originally stated that there were at least two reefs on the property. As a matter of fact, there were four, all gold-bearing and of high capacity. Unfortunately, the company had been pursued by the most persistent ill-luck, for the most part due to the fact that certain shareholders had never gone further than the payment of their allotment money. There was, in fact, a deficit of about 8250 shares, and it was quite impossible to get this money since the holders lived abroad. At the same time the directors were assured as to the value of the mine and also of the possibility of putting the company upon a paying basis after the reconstruction. Passing on to deal with the scheme of reconstruction, the Chairman said that the new company would have a capital of 30,000 shares of 5s. each, of which 30,060 would be issued with £1.6d. paid, to the shareholders of the old company, while the remaining 33,940 shares would be issued with the same liability to the parties who had undertaken to guarantee the whole subscription. The exact outcome of the reconstruction would be £8500, and after all liabilities had been paid there would be a balance of £271 in hand for the development of the mine. The directors were fully convinced that they would be able with this money to put the mine on a satisfactory working basis. The Chairman then moved resolutions winding up the company.—Mr. Forwood seconded the resolutions, which, after a long discussion, were carried.

NEW ISSUES.

THE NORTHERN TERRITORIES GOLD FIELDS OF AUSTRALIA (LIMITED).

The capital of this undertaking is £300,000, in £1 shares, and applications are now invited for 295,000 fully-paid shares at £3 each. The prospectus states that this company was incorporated in July, 1896, for the purpose of taking over from the Northern Territories Syndicate (Limited) six extensive groups of developed and working gold mines situated in the Northern Territory of South Australia, together with a large quantity of plant and machinery, and upwards of 30,000 tons of tailings. The properties acquired comprise nearly 700 acres, and are locally known as the Howley Group, Brock's Creek, Woolwong, Eveleen (including the Eureka Mine), Yam Creek, and Lady Alice Union District groups. They extend along a line of main reef for a distance of about 10 miles, and have been worked in a spasmodic and unscientific manner for some years past by Chinese labour, the following being some of the results of crushings prior to the formation of this company, as vouches for by official records:—Group 1. Government reports show the results of crushings of over 5000 tons from this group. These crushings average 3 ounces per ton, whilst the following are the latest returns obtained from six crushings taken from the 150 feet level:—

Crushings.	Tons.	Ounces.
No. 1	72	378
No. 2	119	402
No. 3	63	167
No. 4	12	60
No. 5	44	265
No. 6	30	190

The last two returns have thus yielded over 6 ounces per ton. This reef is now 4 feet wide at face.—Group 2. A crushing of 10 tons from the Alligator Mine (on this property) has given the phenomenal result of 3000 ounces, whilst a large crushing of 6000 tons realised 17,000 ounces of gold.—Group 3. A crushing of 4300 tons of surface ore only from this property has yielded 3600 ounces.—Group 4. A crushing of 1200 tons from the main shaft of this property has yielded 3300 ounces.—Group 5. A crushing of 250 tons from this property has yielded 600 ounces.—Group 6. A crushing of 180 tons from this property has yielded 630 ounces of gold. Another crushing yielded 1 ounces of gold per ton. The above results are independent of gold left in the tailings, which have in some cases yielded results of a remarkable character."

HAYCRAFT GOLD REDUCTION AND MINING COMPANY (LIMITED).

This company has been formed with a capital of £200,000 in £1 shares (of which 95,000 are now to be issued) for the purpose of acquiring the exclusive rights for Western Australia of Haycraft's Gold Extraction Process, to acquire and work a special plant for treating the same, and to acquire, develop, and work the Victory and Hearts of Oak Mines, comprising two leases, aggregating, it is said, 36 acres, or thereabouts, in the Hannan's district, Kalgoorlie, Western Australia. The process in question consists, as the prospectus states, "of a combination of two well-known operations—viz, electrolytic chlorination and electro-analagamation, carried on in one vessel at boiling temperature, after the ore has been subjected to the usual crushing." It appears that all the ore is treated in one operation as received from the mill, and during that operation practically the whole percentage of gold in the ore is extracted in two hours time. It is a pleasure to find that the Haycraft's process is only being brought into prominence after some 18 months of constant trial. "A complete plant for experimental purposes," says the prospectus, "was erected at Adelaide early in 1895, where it has since been running on sample parcels of ore sent from all parts of Australia. A special trial was made by Mr. Nicholson, of Adelaide, the well-known expert, of the Haycraft process, as compared with battery and cyanide treatment. The results gave 6 to 10 per cent. more gold saved by the Haycraft process in two hours than by the battery and cyanide treatment combined in 48 hours. The other results have proved most satisfactory, and the percentage of gold extracted has varied from 80 to 97½ per cent. In each case a full charge of 1 ton has been treated, the difference in weight between the parcel sent and the proper charge being made up by the addition of ordinary sandstone, and in one case 10 tons were treated." Many special advantages are claimed for this new departure, but perhaps the most remarkable is the use of salt water instead of fresh. The importance of this point in a country like West Australia can, it is obvious, hardly be exaggerated. The other favourable points said to be connected with the process are as follows:—Cheapness, the smallness of the quantity required, 100 gallons per ton only (50 of which can be used again), as compared with a minimum of 240 gallons for the ordinary battery; simplicity of adjuncts—i.e., firewood, salt water, and mercury (100 lbs. of mercury will absorb 200 ounces of gold, and be ready for use again after passing through the mercury retort); great saving in time occupied by treatment; and the non-formation of slimes and tailings, and the consequent saving of any loss of gold in this direction.

LATEST FROM THE MINES.

The Secretaries of their respective Companies have sent us the following Cables and Telegrams for publication:—

ARROW PROPRIETARY.—Cable from the company's agent dated Kalgoorlie, December 8:—"Mill commenced running December 7 works exceedingly well."—Cable from Captain Hamby, dated Kalgoorlie, December 8:—"The mill has been started, everything now is in first-rate order. Will clean up on December 20 and cable result."

ACHILLES GOLD FIELDS.—The company have received the following cablegram, relating to the November crushing, from their managing director at the mines:—"Crushed 450 tons, obtained 480 ounces of gold."

BRILLIANT AND ST. GEORGE.—The following cablegram from the directors of this company has been received:—"Have crushed during the month 1728 tons of quartz for 2019 ounces of gold. Have declared a dividend for the month of 9d. per share, payable on December 22 instant." The approximate value of this return is £6975.

BRITISH BROKEN HILL.—Cable advice received from Adelaide December 7:—"5254 tons crude ore produced 1221 tons concentrates, containing 772 tons lead, and 16,546 ounces silver."

BRILLIANT BLOCK.—Cablegram from Charters Towers:—"Contributing or partly paid shares. The directors have made a call of 6s. per share, payable on Thursday, December 24."

BONNIE DUNDEE.—Cablegram from the managing director in Charters Towers:—"Have crushed 211 tons of quartz from the Victory reef for a yield of 243 ounces of gold. The approximate value of this return is £825. The vertical shaft has reached a depth of 1650 feet from the surface. I deem it advisable to continue sinking."

BROKEN HILL PROPRIETARY.—30,964 tons of ore were treated for the four weeks ending December 10, and the output from the refinery was 355 ounces gold (estimated), 535,349 ounces silver, 1524 tons lead, 45 tons antimony lead (estimated), and 311 tons copper matte, containing 51 tons copper (estimated), and 32,537 ounces silver (estimated). Buyers' quotation in Melbourne for Broken Hill Proprietary Company's shares on the 11th inst. was £2 10s.

BLOCK B. LANGLAAGTE ESTATE.—Production for November: By cable: "Mill. Stamps running, 75; ore crushed, 6891 tons of 2000 lbs.; gold retorted, 1642 ounces. Tailings, cyanide process. Tons treated, 3440 tons of 2000 lbs.; gold recovered, 479 ounces. Concentrates, cyanide process. Tons treated, 153 tons of 2000 lbs.; gold recovered, 306 ounces; total gold recovered, 2427 ounces."

CASSEL COAL.—A cablegram received by the directors gives the output for the month of November as 25,225 tons; profit, £4200; and adds:—"Supply of trucks improving."

COLLINGWOOD GOLD FIELDS.—Mr. G. Beetham, one of the directors of this company, arrived at Auckland on the 3rd inst., and will proceed at once to make the necessary arrangements for the active development of the company's properties.

CITY AND SUBURBAN.—Last month's crushing yielded 10,140 ounces.

CURTIN DAVIS PROPRIETARY.—The following cable, dated the 4th inst., has been received by this company's London office from its head office at Melbourne:—"Half-yearly shareholders' meeting passed off satisfactorily. Have exposed ledge at 1300 feet and 1400 feet 30 feet."

DE LAMAR.—The following is the cabled return for the month of November:—"Crushed during the month 4010 tons, bullion produced in the mill £46,800, estimated value of ore shipped to smelters £5800, miscellaneous revenue £125, total produce £52,725; total expenses £40,490; profit for the month of November £12,235, or at £4/90 to £ sterling, £2497."

DURBAN-ROODEPOORT.—The following results for November have been received by cable:—"Quartz milled 10,180 tons, 80 stamps 27 days, 4413 ounces; tailings treated 6135 tons, 27 days, 1538 ounces, total 5951 ounces."

FRONTINO AND BOLIVIA.—The directors have received a cablegram from their manager, by which they learn that the

result for November is as follows:—Gold, £12,000; cost, £6550; profit, £5450.

GELDENHUIS DEEP.—The following cable has been received from the mine manager, dated Johannesburg, December 7, 10.45 a.m., and received London, December 7, 2.25 p.m.:—"November return. Mill ran during month 21½ days, crushing 14,093 tons, yielding 3834 ounces. Cyanide treated 10,800 tons, yielding 2803 ounces. Mining profit for month £1239."

GOLD FIELDS OF MYSORE.—The following cablegram, dated December 5, has been received from the mine:—"84 ounces of gold obtained from 1500 tons sand, cyanide process; 33 ounces of gold obtained by pan amalgamation."

GRASKOP.—Return from the mine for the month of November:—"Ore treated 216 tons, yielding 151 ounces of gold. Total yield January 1 to November 30, 2299 ounces."

GREAT BOULDER PROPRIETARY.—Crushing returns for the fortnight ending December 7:—"Crushed 703 tons of ore, yielded 2122 ounces."

GEORGE GOCH AMALGAMATED.—The following cable is to hand advising work done during November:—"8300 tons crushed, yielding 2195 ounces gold, and 1558 ounces from tailings."

HENRY NOURSE.—Result of operations for November:—"Mill ran 28 days, crushed 8400 tons, produced 5115 ounces, treated 5860 tons cyanide, produced 2042 ounces, total 7157 ounces."

HANNAN'S NORTH CRESUS.—The following cable information has been received from Coolgardie from Mr. C. O. West, the mine manager:—"Owing to new developments, expect to strike Cresus Proprietary lode at about 130 feet new shaft North Cresus. Have mailed report on property. Telluride of gold discovery in the immediate neighbourhood very important."

HENRY NOURSE.—The profit on November working was £1080.

HAURAKI.—The directors have received the following telegram from the manager, viz:—"Total amount crushed (four weeks) is 325 tons; ounces of gold, 2039; approximate cost, £1875; profit, £4550. Nothing new in the mine."

HALL MINES.—Results of the company's smelting operations during the four weeks ending November 14 to December 5:—"28 days' smelting: 3520 tons of ore were smelted, yielding 237 tons matte, containing (approximately) 113 tons copper, 63,120 ounces silver, traces gold." Note.—Since the date of the last returns \$8124.72 have been received for metallic copper.

JUMPERS.—Results for November: A cablegram has been received from the head office, Johannesburg, stating the following results for last month:—"Crushed, 11,747 tons, obtained from mill, 3587 ounces of gold; from concentrate, equal to 839 ounces of gold; from tailings by cyanide, 760 ounces of gold; total, 5186 ounces of gold; profit for month, £3400."

JOHANNESBURG WATERWORKS ESTATE AND EXPLORATION.—Average weekly consumption for October, 6,192,604 gallons.

JUBILEE.—Last month's crushing yielded 1585 ounces battery, 400 ounces tailings. Battery stopped for want of water.

KATHLEEN CROWN.—The directors have received the following telegram from the manager, viz:—"The country rock in the shaft has improved. Surface workings are looking much better. Good progress is being made with foundations for engine."

LANGLAAGTE ESTATE.—Production for November by cable:—"Mill. Stamps running, 160; ore crushed, 18,638 tons of 2000 lbs.; gold retorted, 5695 ounces. Tailings, cyanide process. Tons treated, 9380 of 2000 lbs.; gold recovered 1250 ounces. Concentrates, cyanide process. Tons treated 430 of 2000 lbs.; gold recovered, 1182 ounces; total gold recovered 8127 ounces."

LANGLAAGTE STAR.—Production for November: By cable: "Mill. Stamps running, 60; ore crushed, 1184 tons of 2000 lbs.; gold retorted, 320 ounces. Tailings, cyanide process. Tons treated, 1410 tons of 2000 lbs.; gold recovered, 204 ounces; total gold recovered, 524 ounces."

LONDONDERRY.—Last report dated November 3 states depth main shaft 326 feet. Reef now coming into the shaft. Quartz contains iron and copper pyrites and galena with a little free gold.

LONDON AND WESTERN AUSTRALIAN INVESTMENT.—The company's agents at Cooee advise the letting at a good rental, for two years, of another of the company's shacks in the township.

LOMATIE (LYDENBURG) EXPLORATION.—Copy of a cablegram received from the manager, Mr. E. Howse:—"Existence gold has been proved along Buffelsprint and Vygoboom (two of the 10 farms owned by the company), 7 miles. You may expect pay chutes in many cases. All explorations so far show that gold is mainly in the free state and coarse. A small five stamp prospecting battery is being erected."

MENZIES "CRUSOE".—November monthly return:—Cable information has been received from the manager at the mines to the following effect:—"Clean up No. 9. Hours run, 694; tons crushed, 600; gold smelted gold, 964 ounces; tailings assayed, 11 dwts.; stone from Robinson Crusoe and Crusoe East claims. There is practically no change to report in the mine. Good progress is being made in all departments. The total number of tons crushed to date, inclusive of the above, is 3010 total gold recovered, 524 ounces."

MEYER AND CHARLTON.—Result of working for month of November:—"Crushed 9768 tons, gold won 3145 ounces, extracted from tailings 1751 ounces, total 4896 ounces; profit for month £6514."

MILLS' DAY DAWN.—The London office have received the following cablegram from the head office in Charters Towers:—"Have crushed during the month 470 tons of quartz for 474 ounces of gold." The approximate value of this return is £1650.

MOUNT MORGAN (Queensland).—Results for the month of November:—"Tons chlorinated, 8644; gold returned, 17,000 ounces."

MOUNT YAGAHONG.—300 tons crushed, 525 ounces. Will be able to crush 200 tons about the middle of January. Estimated to be worth £12 per ton of 2240 lbs. Have arranged with managing director, Star of the East. Can manage to erect the machinery (10 stamps), £4000. Estimated cost of mining and milling will be 35s."

mysore gold.—The directors have received a telegram from the mine, giving the return of gold for the month of November as follows:—"5300 tons of quartz produced 8031 ounces of gold; 4440 tons of tailings produced 1059 ounces of gold; 1800 tons of tailings (cyanide process) produced 251 ounces of gold; total production for the month, 9341 ounces of gold."

mysore reefs (Kangundy).—The London office have received a telegram from the mine, dated December, giving last month's return of gold as follows:—"518 tons of stone produced 427 ounces of gold."

MENZIES ALPHA LEASES.—The following cablegram gives the result obtained from trial crushing:—"Ore dump

from winze, A shaft and C shaft, crushed 53 tons; 380 ounces of gold; tailings, assay average 1 ounce 16 dwts. per ton. Some of it (the gold) is very fine."

NEWHOUSE TUNNEL.—The following cable has been received from Denver:—"We have driven during the past month 175 feet, laid 350 feet drain. Have struck a strong body of water."

NIGEL GOLD.—Last month's crushing yielded:—1059 ounces battery, cyanide 804 ounces, total 1863 ounces.

NEW GUADALCAZAR QUICKSILVER.—A cable has been received from Mexico, stating that the production of quicksilver for the past week amounted to 2000 lbs., equal 263 flasks.

NIGEL DEEP.—Copy of cable received from South Africa:—"Have struck the Nigel reef in D shaft at 688 feet, assays 3 ounces 14 dwts. per ton over about 5 inches."

NEW QUEEN.—The directors have received the following cablegram for past fortnight, dated Charters Towers, December 5:—"Have drawn on you for £490. Shipped per *Banffshire* 267 ounces gold. Shall proceed to open up.—No. 6 formation. Have been obliged to stop sinking because have struck a flow of water. Sunk deep shaft 5 feet during fortnight."

NEW CHARTERS TOWERS GOLD.—In answer to telegraphic enquiry from the board, the following cablegram has been received from Charters Towers:—"Trial crushing will not be completed for 10 days. Cyanide process most favourable. Complete plant, including everything necessary for cyanide, will not exceed £2500."

NEW OPTIONS.—This company has received the following cablegram from Mr. T. G. Davey, dated December 10, viz.:—"Monarch. Shaft has reached a depth of 132 feet. Average width of lode is 9 feet; continues in high grade ore. We are now crushing ore. Shall clean up next week. We have struck another independent chute high grade ore the bottom of the shaft."

NEW COMET.—The Anglo-French Exploration Company (Limited), as London agents to the New Comet Gold Mining Company (Limited), have received a cable from Johannesburg to the effect that the crushing for last month was as follows:—"The number of tons crushed .. 2527

" ounces recovered from mill .. 802
" tons treated by cyanide .. 3418
" ounces recovered from cyanide .. 416

Total number of ounces recovered .. 1218
The mill ran only 10 days on account of insufficiency of water. From advice since received by cable, we are informed that it is expected that within 14 days an adequate supply will be obtained to keep the full head of stamps running.

NORTH RANDFONTEIN.—Production for November:—By cable:—"Mill. Stamps running, 30; ore crushed, 4503 tons of 2000 lbs.; gold retorted, 1699 ounces."—Official Note: With regard to the output, no gold has been obtained from the tailings and concentrates, on account of the scarcity of water owing to the drought; the company's reservoirs having been completed after the last rainy season was over. Rains are inspected every moment, when the company will be able to work up to its full power. The rock milled has also not been of the best quality, as in opening up the mine the full width of the reef has been taken for the purpose of setting the plates and getting the faces of the stopes in order. Only 30 stamps have been at work."

OURO PRETO.—This company has sold the October gold for £5279 7s. 1d.

PALMAREJO.—Return for November:—"Crushed, 2050 tons; worked 1800 tons, producing \$43,000; expenses, \$35,500."

PORGES RANDFONTEIN.—Production for November:—By cable:—"Mill. Stamps running, 60; ore crushed, 5989 tons of 2000 lbs.; gold retorted, 2259 ounces.—Tailings, cyanide process. Tons treated, 4140 tons of 2000 lbs.; gold recovered, 672 ounces.—Concentrates, cyanide process. Tons treated, 210 tons of 2000 lbs.; gold recovered, 84 ounces; total gold recovered, 3015 ounces."

PIGGS PEAK DEVELOPMENT.—The following cable has been received from the mine, viz.:—"During the month (November) mill worked 16 days crushed 1400 tons, yielded 173 ounces gold. Assay of tailings 6 dwts. per ton. Have collected 1050 tons of tailings, worth £930. Owing to the scarcity of labour the erection of cyanide delayed. Have decided to shut down mine and 30 stamp mill December 12, push ahead with cyanide works, continued crushing will entail very considerable expense to collect tailings. (Mr. Percy) Whitehead (a director who is on the spot) strongly advises immediate temporary closing." The directors have cabled their approval of the manager's proposal.

ROBINSON.—Production for November. By cable:—"Mill. 120 stamps at work. 13,781 tons of ore crushed yielded in smelted gold 11,030 ounces. From concentrates (by chlorination) 1270 ounces. From tailings (cyanide process) 3710 ounces. From slimes 1270 ounces. From own ore 17,289 ounces. From concentrates bought (by chlorination) 2895 ounces. Total gold recovered 20,184 ounces. Profit for month £40,000."

ROODEPOORT UNITED.—Result of operations for month of November:—70 stamps crushed 6320 tons, produced 2645 ounces ("decrease mill output owing to scarcity of native labour"); cyanide 854 ounces; total, 3499 ounces; profit, £4350.

REGINA (Canada, Lake of the Woods).—The following cablegram was received December 8 from the Chairman, Lieutenant-General Wilkinson:—"The main shaft is down 210 feet. Vein is fully 6 feet wide. Have struck a large ore body in the third level north, assaying 4 ounces 10 dwts. per ton. Last fortnight's output 56 ounces of gold."

ROODEPOORT GOLD.—The following cable has been received:—"Production for November, 1329 ounces; 40 stamps; 28 days."

SALISBURY.—Last month's crushing yielded 1600 ounces. Owing to continued drought the battery now closed, and the dam is dry.

ST. JOHN DEL REY.—The following telegram has been received from Mr. Chalmers:—"Produce month November, 31,000 oitavas, equal to 3573 ounces troy, value £12,012; yield per ton 4-6 oitavas (53 ounce troy)."

VICTORIA REEF.—Cable from Australian agents:—"Manager reports: Expect machinery to be working by last week in December. Pushing the matter forward with all possible speed. Main shaft, new find, looking first-rate."

VAN RYN.—The following cable has been received from Johannesburg:—"Mill ran 34 days (80 stamps), crushed 12,489 tons, recovered 3525 ounces, treated 7900 tons, cyanide recovered 982 ounces, total ounces recovered 4507."—Note. The above is the first crushing of the new mill.

VICTORIA GOLD MINING ASSOCIATION (Charters Towers).—The following cablegram has been received at the London office:—"296 tons crushed yielded 550 ounces gold."

VICTORY (Charters Towers).—Messrs. A. Durand and Co., the London agents, have received the following cablegram from head office, dated Sydney, December 4:—"Crushed from No. 3 shaft 270 tons for 436 ounces of gold. Approximate value, £1500. Expect additional 40 ounces from final clean up."

WESTERN AUSTRALIAN DEVELOPMENT.—Mr. E. A. Lloyd, the mine manager, reports:—Dorothy. Shaft has been sunk a further depth of 15 feet, making a total of 165 feet

WATER TRUST.—New Victoria South Mines. Cablegram from the general manager:—"On the 100 feet level west drift developments opening up splendidly. Fortnightly output assays 4 ounces 5 dwts. per ton."

WEMMER.—The following cable is to hand:—"The result of work done during November: 5298 tons crushed, yielding 3638 ounces of gold, 22 days; and from cyanide plant 3125 tons treated, yielding 976 ounces, and from concentrates 185 tons caught, assaying 98 dwts."

WITWATERSRAND (Knight's).—The following cable is to hand, giving result of work done during November:—"60 stamp mill run 26 days; 8188 tons crushed, yielding 2627 ounces smelted gold; 5350 tons cyanide tailings treated, yielding 1062 ounces gold; total output, 3689 ounces."

GREAT BUNINYONG ESTATE.—Cablegram states:—"Alluvial sinking shaft completed, driving in both directions."

GINSBERG.—Production for November 1579 ounces, 40 stamps, 20 days.

HENRY NOURSE.—Cable advice has been received of the declaration of a dividend (No. 1) at the rate of 30 per cent, payable to shareholders registered on December 31.

LANGLAAGTE ROYAL.—Cable from the above company:—"Production for November 3664 ounces, 100 stamps, 24 days."

NEW PRIMROSE.—Production for November 7727 ounces, 160 stamps, 25 days, profit £5932.

NEW HEIDELBERG-ROODEPOORT.—Cable from the above company:—"Production for November 11,552 ounces, 40 stamps, 28 days."

SLIMMER AND JACK PROPRIETARY.—Crushed 13,120 tons. Obtained 4956 ounces of gold from mill, 605 ounces of gold by chlorination, and 2127 ounces of gold from tailings by cyanide during the month.

WOLHUTER.—Cabled advice of operations for November:—"100 stamps crushed 10,814 tons, produced 3839 ounces cyanide produced 1831 ounces, total 5670 ounces."

LONDON AND SOUTH AFRICAN EXPLORATION COMPANY.

The directors of this company have declared a dividend of 4s. per share, less income tax, for the quarter ending the 31st instant, payable on and after that date, making, with the three previous dividends paid, a total distribution for the year of 16s. per share.

The SUBSCRIPTION LIST WILL OPEN on MONDAY, 14th December, 1890, and will CLOSE on or before WEDNESDAY, 16th December, for LONDON, and THURSDAY, 17th December, 1890, for COUNTRY Applications.

The Bank of Adelaide, 11, Leadenhall-street, London, E.C., and Williams Deacon and Manchester and Salford Bank (Limited), Manchester, and Branches, are authorised to receive Subscriptions for the undermentioned issue of Shares.

HAYCRAFT GOLD REDUCTION AND MINING COMPANY, LIMITED.

(Incorporated under the Companies Acts, 1862 to 1893.)

CAPITAL .. £200,000.
Divided into 200,000 Shares of £1 each.

PRESENT ISSUE .. £95,000,
OF WHICH
£40,000 is now OFFERED FOR SUBSCRIPTION,
payable as follows:—

5s. on Application,
5s. on Allotment,
5s. on January 8, 1891,
5s. on February 8, 1891.

DISDIRECTORS.
J. Loudon Strain, A.M.I.C.E. (Chairman New Coolgardie Gold Exploration and Finance Association, W.A. (Limited), Chairman, A. J. Davis, 31, Poultry, London, E.C., Joseph Stanoring Dronfield (Dronfield Brothers, Limited), Atlas Works, Oldham, Frederick Lee, Middleton, Lancashire, J. B. Mellor, Ashton-under-Lyne, J. H. Smith, A.M.I.C.E. (late Chairman Railway Commissioners, South Australia.)

COLONIAL DIRECTORS.
William Muffin, Adelaide, South Australia.
Charles Rasp, Adelaide, South Australia.
*Who will be appointed after allotment.

BANKERS.

London: Bank of Adelaide, 11, Leadenhall Street, London, E.C.
Manchester: Williams Deacon and Manchester and Salford Bank (Limited), Mosley Street, Manchester, and Branches.

SOLICITOR.

E. T. Hargraves, 18, St. Thomas Street, London, E.C.
BROKERS.

London: E. B. Haselden and Co., 27, Throgmorton Street, London.
Manchester: Farnborough and Ashe, India Buildings, 14, Cross Street, Oldham.

AUDITORS.

Robertson Lawson and Co., Chartered Accountants, 34, Old Broad Street, London, E.C.

SECRETARY AND OFFICES.

R. GORDON, 31, Poultry, London, E.C.

ABRIDGED PROSPECTUS.

This Company is formed for the following purposes:—
(a) To acquire the exclusive rights for Western Australia of Haycraft's Gold Extraction Process on the terms hereafter mentioned.

(b) To acquire and work the Special Plant for treating ore by the Haycraft process, together with a leasehold battery site of five acres adjoining the Bon Accord mine, Kalgoorlie, Western Australia.

(c) To acquire, develop, and work the Victory and Harts of Oak Mines, comprising two leases, aggregating 36 acres or thereabouts, situated in Hamers' district, Kalgoorlie, Western Australia.

The Haycraft Gold Extraction Process (Patent No. 549, dated August 21, 1894, for Western Australia), consists of a combination of two well-known operations, viz.: Electrolytic chlorination and electro amalgamation, carried on in one vessel at boiling temperature, after the ore has been subjected to the usual crushing.

The special features of this process are its simplicity and completeness, for the whole ore is treated in one operation as received from the mill, and during that operation practically the whole percentage of gold in the ore is extracted in two hours' time.

The special advantages of this process are as follows:—

(1.) Cheapness.

(1.) The use of salt water (which is so abundant in Western Australia) instead of fresh.

(1.) The smallness of the quantity required, 150 gallons per ton only (59 of which can be used again), as compared with a minimum of 240 gallons for the ordinary battery.

(1.) Simplicity of adjustment, i.e., firewood, salt water, and mercury (100 lbs. of mercury will extract 2.50 ounces of gold, and is ready for use again after passing through the mercury rotary).

(1.) Great saving in time as is effected by treatment.

(1.) The non-formation of slimes and tailings and the consequent saving of any loss of gold in this direction.

A complete plant for experimental purposes was erected at Adelaide early in 1895, where it has since been running on sample parcels of ore sent from all parts of Australia. A special test was made by Mr. Nicholson, of Adelaide, the well-known expert of the Haycraft process, as compared with battery and cyanide treatment. The results gave 8 to 10 per cent, more gold saved by the Haycraft process in two hours than by the battery and cyanide treatment combined in 48 hours.

The other results have proved most satisfactory, as can be seen from the tabulated statement given on the prospectus, and the percentage of gold extracted has varied from 85 to 97 per cent. In each case a full charge of 1 ton has been treated, the difference in weight between the parcel sent and the proper charge being made up by the addition of ordinary sandstone, and in one case 10 tons were treated.

Full Prospects and Forms of Application can be obtained from the Bankers, Brokers' Selectors; and at the Offices of the Company.

MINING AT GREAT DEPTHS.

By BENNETT H. BROUH, Assoc. R.M.S., F.L.G., F.G.S.

THE recent announcement† that the Red Jacket shaft of the Calumet and Hecla Mine in the Lake Superior copper region has been sunk to a depth of 4900 feet, the greatest depth hitherto reached by a mine shaft, opens up a large field of speculation as to future developments of mining at great depths. The subject is one of great importance in view of the rapid exhaustion of the thicker and more accessible seams in the British coal fields, and in view of the attention which at the present time is being devoted to the working of deep level auriferous deposits in the Transvaal, California, and New Zealand. It appeared, therefore, that a well-considered summary of the existing literature of the subject, supplemented by observations made during visits to the mining districts of the Transvaal, Lake Superior, and the Continent, would not be out of place in the proceedings of the Society.

The LECTURER then gave an historical record of depths attained, when comparatively shallow depths, in ancient times, were looked upon with wonder; and then read the following list of modern deep shafts:—

Deep Shafts.

United States:	Feet.
Red Jacket, Calumet, and Hecla, Lake Superior	4900
Tamarack, Lake Superior	4450
Yellow Jacket, Comstock, Nevada	3123
California Mine, Colorado	2200
Grass Valley, Idaho	2182
Kennedy Mine, Jackson, California	2160
Pottsville shaft (disused), Philadelphia and Reading Coal and Iron Company	2000
Belgium:	
Produits Colliery, Mons.	3937
Viviers shaft, Gilly	3760
Viernoy shaft, Anderlues	3300
Marchienne Colliery	3117
St. André shaft, Poirier Colliery, Charleroi	3100
Ciply Colliery, Mons	2960
Housu Colliery, Centre	2900
Mariyave Colliery, Liège	2100
Average depth of all Belgian collieries	1420
Austria-Hungary:	
Adalbert, Przibram, Bohemia	2672
Maria, Przibram	3281
Anna, Przibram	3100
Franz Josef, Przibram	2900
Procop, Przibram	2900
Einigkeit, Joachimsthal, Bohemia	1750
Amalia, Schemnitz, Hungary	1750
Great Britain:	
Pendleton, Manchester (workings)	2474
Ashton Moss, Manchester (workings)	3300
Astley Pit, Dukinfield (workings)	3160
Dolcoath Mine, Cornwall	2582
Rose Bridge Colliery, Wigan	2446
Cook's Kitchen, Cornwall	2436
Harris' Navigation, Pontypridd	2367
Cadby Main Colliery	2250
Bickershaw Colliery, Leigh	2210
Moss Collieries (No. 4 pit), Wigan	2205
Astley Pit, Dukinfield (shaft)	2058
Niddrie, Portobello, N.B.	2010
Wearmouth Colliery	1722
Loanhead Colliery, Shott's Iron Company	1700
Victoria:	
Lansell's, Bendigo	3202
Lazarus, Bendigo	3024
Magdala, Stawell	2409
25 gold mines exceed	2000
Germany:	
Kaiser Wilhelm II., Clausthal, Harz.	2600
Einigkeit, Lügau, Saxony	2600
Samson, St. Andreasberg, Harz	2550
Frieden Colliery, Olanitz, Saxony	2420
Concordia Colliery, Olanitz, Saxony	2330
Hausa Colliery, Huckarde, Westphalia	2300
Maria Col	

sidery (in which the bucket is drawn up by making a horse walk a way from the shaft); the horse-whim; and the winding drum, worked by natural water-power. This was followed by the winding-drum, worked by water-power, pumped up for the purpose; the winding-drum, coupled direct to the steam-engine, an automatic collision-preventing arrangement for slowing the wicker-baskets when they passed each other in the shaft, rendered necessary by the increased speed of winding; next, the introduction in 1833, by Mr. T. Y. Hall, of South Hetton Colliery, of guides and cages to convey the wagons to the surface; and lastly, we come to the improved winding engines of to-day.

The invention of wire rope by Oberbergerth Albert, in Clausenthal, in 1833, rendered deep mining possible. Before that date, the cost of hemp ropes for deep shafts was very serious, and often as much as 6d. per ton of output was required for their maintenance. The ropes at Wearmouth Colliery cost £550 per pair. They weighed 5*1/2* tons, and only lasted 10 months. Iron wire rope has now been superseded by steel. At the deep shafts of Pfriem's crucible cast steel, with a tensile strength of 76 tons per square inch, was used up to 1855. Since then special crucible cast steel, with a tensile strength of 114 to 120 tons per square inch, has been used with most satisfactory results. At these mines the advantage of using tapering ropes is especially noticeable.

Flat steel ropes are in use in Belgium, at the Providence shaft at Marchiennes. They are made of eight parallel four-stranded ropes, tapered by reducing the number of wires in the strand from 12 to 11 and 10, the wire, which is of crucible cast steel, of a tensile strength of 89 tons per square inch, being of the same diameter (0.08 inch) throughout. The breadth of the rope varies from 7.87 inches at the thick, to 6.69 inches at the thin end, and the average weight is 8.2 lbs. per foot. The winding engines of 2000 horse-power have cylinders 43 inches in diameter and 78 inches stroke, and draw a load of 12*1/2* tons (8 tons for the cage and tubs, and 6 tons of coal) from a depth of 3117 feet. The life of the rope is about 12 months.

At another deep Belgian colliery, the Sainte Henriette shaft of the Products Company, at Flenu, also ropes are used to lift a load of 6*1/2* tons from a depth of 3937 feet. They are of flat section, with 10 strands, tapering in breadth from 16.5 inches to 8.6 inches, and in thickness from 1.93 inch to 1.14 inch. The average weight per foot is 7.4 lbs. The life of these ropes is about 24 months.

At the deep mines of the Lake Superior copper region machinery of a very high class is employed. The following interesting particulars, for which I am indebted to Mr. John Birkinbine, past-President of the American Institute of Mining Engineers, will serve to illustrate this.

In the case of one pair of quadruple engines at the Calumet and Hecla Mine, each engine has its four cylinders, 18 inches, 21*1/2* inches, 48 inches, and 90 inches in diameter, with a stroke of 10 inches, driving through gearing conical winding drums, 14 to 24 feet in diameter, and 12 feet wide, which lift cages carrying 6 tons of ore at the rate of a mile in 1*1/2* minute.

At the Tamarack Mine an average winding speed of 3200 feet per minute has been obtained by direct acting engine, having 42 by 84 inch steam cylinders, driving winding drums 30 feet in diameter. At the same mine a 32 by 84 inch engine, driving a double conical drum 13 feet 6 inches to 36 feet in diameter, lifts a cage carrying 2*1/2* to 3 tons 4500 feet in 1*1/2* minute. These are vertical shafts.

At the Quincy Mine there are two principal shafts. No. 6, on a slope of 6*1/2* 4*1/2*, has a total depth of 3680 feet, the weight being about 6 tons. No. 2 shaft, with the same dip, has a total depth along the slope of 3954 feet, the weight raised being 10 tons.

It is interesting to compare results obtained at these three mines with those obtained at English collieries. Three illustrations which are given on good authority may be cited. In the "Encyclopaedia Britannica," 1877, Mr. Bauerman selects as a good example of modern winding, such as is required to draw 120 tons in 10 hours, that at Shireoaks Colliery, Nottingham. Then the cage with a load of 34 cwt. in five tubs is raised from a depth of 1548 feet in 45 seconds, an average of 200 feet per minute. Mr. Emerson Bainbridge cites as an illustration of swift winding a north Derbyshire colliery, where, in June, 1890, as much as 6300 tons were raised from a depth of 107 feet in $\frac{1}{2}$ hours. Figures of cage speed, published by the North of England Institute of Mining Engineers in 1876, show that the greatest maximum speed of the cage in the shaft recorded was at Ross Bridge Colliery, where it reached 5100 feet per minute, or about 57 miles an hour.

The selection of the best form of drum is a matter of importance in winding from great depths. It appears best to replace large and expensive drums by small ones, and to have more revolutions for each journey. This object is attained in the system of winding engines patented in 1866 by Mr. S. B. Whiting, the manager of the Calumet and Hecla Mine. In this system, there are two grooved drums, one directly in line with the other, coupled by two connecting rods. The rope from one compartment of the shaft winds round both of these drums for three turns, and is then led to the other compartment of the shaft. In order to allow of winding from different levels the rope is led back round a sheave on a tension-carriage running on rails, and a steam winch is connected to it so as to adjust its distance from the shaft. The following are particulars of a winding plant of this type at the Red Jacket shaft:—

Depth of shaft ..	4900 feet.
Size of shaft ..	13 <i>1/2</i> by 23 feet.
Diameter of rope ..	1 <i>1/2</i> inch.
Diameter of drums ..	7 feet.
Cage speed per minute ..	1900 feet.
Weight of cage ..	2500 lbs.
Weight of load ..	3000 lbs.

Remarkable economy in fuel and winding efficiency has been attained with the machinery designed by Mr. L. I. Seymour for the De Beers Diamond Mines, Kimberley, and built by Messrs. James Simpson and Co., of London. The plant consists of a pair of inverted vertical tandem compound condensing engines driving two reels, which are capable of carrying flat wire ropes 3*1/2* by $\frac{1}{4}$ inch. The winding is from the 1200 feet level. Two automatically discharging skips are used, each weighing 4400 lbs. and holding 3000 lbs. of mineral. According to Mr. W. McDermott, on one occasion during a single shift of 11 hours 43 minutes, the weight of blue ground raised was 3665 tons. The engines have been in use for over three years, and consume only 2*1/2* lbs. of coal per horse power per hour.

For highest speeds, vertical shafts and wire rope guides are absolutely necessary. In metal mines time is saved by adopting vertical shafts and cages instead of inclined shafts and skips. The number of loading places should be reduced to the lowest limit. A great deal of the ore obtained from the upper levels could be dropped down winzes by balance cages, as is done in working inclined coal seams. In the Niddrie Collieries, near Edinburgh, experience shows that it pays better to drop coal 100 yards down a staple pit than to wind it from an intermediate loading.

(To be Continued.)

THE GOLD FIELDS OF THE HAURAKI PENINSULA, NEW ZEALAND.*

By the Rev. JOSEPH CAMPBELL.

Introduction.

None of a series of papers on New Zealand, written 16 years ago, the author stated that "the mineral resources of New Zealand, which are contained amidst its extensive and varied geological deposits, have not yet by any means been fully developed. Sufficient, however, have been discovered to indicate the existence of mineral wealth, unsurpassed, if not unequalled, by any other region of the globe of equal extent."

The writer's recent investigations (made in June to October, 1896) have abundantly confirmed the truth of the above statement, and he is surprised that the mineral wealth with which the country literally teems should have been so long allowed to remain undeveloped. For more than 16 years the writer has lived amongst, and constantly studied, the geological formations of Australia and New Zealand; hence the opinions to which he gives expression are not the results of conclusions arrived at after a mere flying visit, but they are the expression of the firm conviction which has forced itself upon his mind as the result of much thought, numerous experiments, and many a weary journey across some of the roughest parts of those great countries.

The Gold Fields.

The writer will now briefly describe a few characteristics of the gold fields included in each of the counties embraced within the peninsula—viz., Coromandel, Thames, and Ohinemuri; but a few words respecting the discovery of gold may be without interest.

Following upon the discovery of gold in Australia in 1851, by Mr. Hargreaves, gold was first discovered in New Zealand by Messrs. Charles and Frederick King in the Kapanga Stream (Driving Creek) at Coromandel, in 1852. Governor Wynyard immediately proceeded thither, and all the tribes of the Hauraki assembled, and on November 30, 1852, an agreement was drawn up and signed allowing Europeans to search for gold from Cape Colville to what is now known as the Thames township. The Government agreed to pay £1 per annum for each miner. This agreement was for a term of three years; but before that time the Europeans had departed, and the land reverted to the Maori owner.

In 1861, gold was again found at Coromandel, and mining operations commenced anew. On November 9, 1861, another agreement was made granting the right to search for gold from Cape Colville to a line drawn from Keriti to Mercury Bay. In 1863, the commencement of hostilities at Waikato so alarmed the Europeans, that they abandoned Coromandel.

In 1867, gold was discovered at the Thames, and on July 27 of that year the land was thrown open for mining, thus including the two counties of Coromandel and Thames.

There was some difficulty in obtaining permission to mine in Ohinemuri County, owing to the obstacles which the Hauas or King Country natives (who refused to acknowledge the Queen's sovereignty) threw in the way. Permission was, however, granted on March 3, 1875.

Ohinemuri County.

Mr. Henry M. Cadell stated that:—

This (Ohinemuri County) is at present by far the most important of the Hauraki gold fields, its production last year (1894-5) being 110,000 ounces—more than twice that of all the others put together. The Ohinemuri mines have this further attraction, from an engineering and scientific point of view, that they exemplify the immense advantage to be derived from the most modern system of gold extraction.†

The production of gold during 1895-6 was 136,415 ounces.

The principal gold fields in the Ohinemuri County are those of Waihi, Waitekauri, Komata, Owharoa, Karangahake, and Te Aroha, with which may be included Wairongomai, situated just outside the Ohinemuri County boundary.

Te Aroha.

It was not until the latter part of 1880 that the Te Aroha portion of the Ohinemuri country was thrown open for mining operations. During the next two years, however, as many as 50 claims were granted, and Mr. H. S. Cox, who was sent by Sir James Hector (Government Geologist of New Zealand) to report on the fields, said: "As regards the future prospects of the field, they are, I think, of a very encouraging nature."

A serious bar, however, to progress lay in the way. A good deal of the ore was refractory, and at that time the appliances for the extraction of gold were of such a crude nature that much more gold was lost than was saved, not more than 40 per cent. being won. Very extensive reduction works were erected at Wairongomai, 3 miles from Te Aroha. Through some error these works, costing between £20,000 and £30,000, were erected before it was proved whether the system which it was proposed to adopt for the treatment of the ore would be successful. After this great expenditure had been incurred, the treatment proved an utter failure, and it was concluded by many engineers that, though the field was undoubtedly a very rich one, the riches were locked up in such a way as to be unobtainable. This unfortunate and ill-advised experiment has been the means of keeping back for years one of the richest gold fields in New Zealand—viz., Te Aroha.

In the report of the Department of Mines on the gold fields of New Zealand for 1895-96, Mr. H. A. Gordon states that Te Aroha:—

"Is a field where there are large auriferous, argentiferous, and cupriferous lodes, but the difficulty so far has been the extraction of the precious metals. The ores in many instances are rich in gold, but, being associated with sulphides of copper, zinc, and galena, the cost of extracting a fair percentage of the gold has been too great to allow these lodes to be worked at a profit. There is no doubt the time will come when this will be a busy field. A process will be found out to treat the ores successfully and economically."

The success which has attended the treatment of refractory ores by the cyanide process at Waihi and in other gold fields has given a great impetus to mining at Te Aroha and Wairongomai, and several companies have been formed to work some of the many claims. The mines, in connection with which the disastrous failure above referred to, at Wairongomai, occurred, are now included in the magnificent property held by the New Zealand Exploration Company. Some of the stone is exceedingly rich, and one sample assayed by the writer gave a return of £1050 per ton. This ore contained telluride of gold, and not a speck of free gold was visible.

* From a paper read before the North of England Institute of Mining and Mechanical Engineers.

† Trans. Inst., Vol. X., page 47.

(To be continued.)

The HAURAKI GOLD MINING COMPANY (LIMITED) has declared a dividend of 1s. per share, free of income tax, payable on and after January 5.

DIARY.

Saturday, December 12.

Rand Roodepoort Gold, Winchester House, 11. Elm's Copper, Cannon Street Hotel, 12. North of England Institute of Mining and Mechanical Engineers, Wood Memorial Hall, Newcastle-on-Tyne, 2.

Monday, December 14.

Gourlay's Rhodesia, Cannon Street Hotel, 11. Sheba Queen Gold and Exploration, Cannon-st. Hotel, 11. Hannan's Brownhill Gold Mining, Winchester House, 11.30. Central Wealth of Nations, Winchester House, 12. Golden Gate Gold Mining Company, Winchester House, 12. New Colorado Silver Mining, Cannon Street Hotel, 12. New Tamarugal Nitrate, Cannon Street Hotel, 12. Rights and Exploring of Rhodesia, 12.30. Matabele Central Estates, Cannon Street Hotel, 12.45. Chaffers Gold, Winchester House, 2. Hampton Gold Hill, Cannon Street Hotel, 2. Richmond Consolidated, Cannon Street Hotel, 2. Rio Tinto, Cannon Street Hotel, 2. Violet Consolidated, Winchester House, 2. Rhodesian Mining and Finance, Cannon Street Hotel, 2.30. Cleveland Institute of Engineers, Middlesbrough. East Rand Proprietary, Johannesburg.

Tuesday, December 15.

North Sheba Gold and Exploration, Cannon St. Hotel, 11. North White Feather Consolidated, Winchester House, 12. London Nitrate. Transvaal Estates and Development, Winchester House, 12. Troye Exploration, Winchester House, 12. Bardoe Gold. Crescent Gold, Cannon Street Hotel, 12.30. Tin Ticketing, Tabb's Hotel, Redruth, 1. North Burgess Gold Mining Company, Winchester Ho., 1.30. British North Borneo, Cannon Street Hotel, 2. Lillooet, Fraser River, and Cariboo Gold Fields, Win. Ho. 2. Sheba, Winchester House, 2.15. Austra'asian Mining, Cannon Street Hotel, 2.30. Bechuanaland Trading, Cannon Street Hotel, 2.30. Henderson's Transvaal, Cannon Street Hotel, 2.30. Venezuelan Mines (in liquidation), Winchester House, 2.30. Koffyfontein Mines, Winchester House, 3. Orita Gold, 10, Blomfield Street, 3.30.

Wednesday, December 16.

Gladiators (Limited), Cannon Street Hotel, 12. Mainland Councils. Menzies Gold Refs., Winchester House, 12. New Central Borneo (Limited), Winchester House, 12. Tati Concessions, Winchester House, 12. Wentworth Gold Fields, Cannon Street Hotel, 12. Frontino and Bolivia, Winchester House, 2. Hampton Plains Exploration, Cannon Street Hotel, 2. Menzies Crusoe, Winchester House, 2.30. Aladdin's Lamp, Cannon Street Hotel, 3. Cape Copper, Cannon Street Hotel, 3. Institution of Mining and Metallurgy, Geological Museum, Jermyn Street, S.W. 8.

Thursday, December 17.

Copiapo Mining Company, Winchester House, 11. Imperial Western Australian Corporation, Win. Ho., 11.30. Oriental Gold, Cannon Street Hotel, 11.30. Preece's Point Proprietary, Winchester House, 11.30. Lagunas Nitrate, Cannon Street Hotel, 12. Golden Crown. North Coolgardie, Winchester House, 12. Sutherland Reef, Winchester House, 12. Union Waihi Gold Mining, Cannon Street Hotel, 12. Champion Reef, Cannon Street Hotel, 12.30. Menzies Mining and Exploration, Cannon St. Hotel, 12.30. Tararu Creek Gold Mining Company, Win. Ho., 12.30. Hall Mines (Limited), Winchester House, 2. South African Estates and Mining, Winchester House, 2. St. John del Rey, Cannon Street Hotel, 2. Pahang Corporation, Winchester House, 2.30. Oriental Estates, Winchester House, 3. South African Exploring, 15, Copthall Avenue, 3. Gravel Gold Mines of Colombia, Winchester House, 3.30. Le Champ d'Or, Grand Hotel, Paris, 3.30.

Friday, December 18.

Matabele Adventurers. Paddington Consols, Winchester House. British West Charterland, Cannon Street Hotel, 12. Oceans Minerals, Winchester House, 12. Pestarena United, 12. Caylloma Silver, 14, Cook Street, Liverpool. New Rand Gold Mines, Cannon Street Hotel, 12.30. South Kalgoorlie, Winchester House, 2.30. Woodstock (N.Z.) Gold, Winchester House, 2.30. Emperor Gold Mines, Winchester House, 3.30. South Luipaard's Vlei, Winchester House, 2.30.

Saturday, December 19.

Londonderry Extended, Winchester House, 11.

THE MOUNTAIN COPPER COMPANY (LIMITED).—Letters of allotment have been posted.

The transfer books of the HAURAKI GOLD MINING COMPANY (LIMITED) will be closed from December 28, 1896, to January 4, 1897, both days inclusive, for payment of dividend of 1s. per share, but declared this day, payable January 5, 1897.

The secretary to the ISLE OF MAN MINING COMPANY (LIMITED) informs us that he has sold 100 tons of this company's ore at £10 2s. 6d. per ton.

The directors of the COOLGARDIE GOLD FIELDS DEVELOPMENT CORPORATION (LIMITED) recommend the distribution of a dividend of 100 per cent. for the second half of the financial year ending December 31. It will be payable to all shareholders whose names are on the register on the 31st instant, and represents, with the 100 per cent. paid for the previous six months, the return of the capital of the corporation for the second time this year.

The NUNDYDROOG COMPANY (LIMITED) has sold the gold obtained during the month of October last, which realised £36,590 15s. 11d.

The ENGLISH CROWN SPUTER COMPANY (LIMITED) has declared an interim dividend of 1s. per £1 share, free of income tax, payable on the 17th inst.

The MYSORE GOLD MINING COMPANY (LIMITED) has sold the gold obtained during the month of October last, which realised £36,590 15s. 11d.

At a meeting of the directors of the ISLE OF MAN MINING COMPANY, held on the 1st inst., a further interim dividend of 2s. per share on the ordinary shares was declared payable on the 5th inst.

The transfer books of the WOODSTOCK GOLD MINING COMPANY (LIMITED) will be closed from the 11th to 18th December inclusive.

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IN the HIGH COURT of JUSTICE, CHANCERY DIVISION.—
Mr. Justice STIRLING.—1896 N. 086.—In the Matter of
NIXON'S NAVIGATION COMPANY (Limited and Reduced), and
in the Matter of the Companies Act, 1887, and in the Matter of the
Companies Act, 1877.—Notice is hereby given, that a PETITION
presented to Her Majesty's High Court of Justice, Chancery Division,
on the 25th day of June, 1896, for CONFIRMING a RESOLUTION
REDUCING the CAPITAL of the above Company from
£780,000, divided into 7800 Shares of £100 each, with £87 16s. paid
up thereon and £12 4s. un-called, to £546,000, divided into 7800
Shares of £70 each, with £65 16s. paid up thereon and £4 4s. un-
called, is directed to be HEARD before Mr. Justice Stirling on the
19th day of December, 1896.
GADSDEN and TREHERNE, 23, Bedford-row, London, W.C.,
Solicitors for the Company.
Dated this 4th day of December, 1896.

THE
FRONTINO AND BOLIVIA (SOUTH AMERICAN)
GOLD MINING COMPANY (LIMITED).
NOTICE IS HEREBY GIVEN, that the ANNUAL MEETING
of the SHAREHOLDERS of this Company will be held at
Winchester House, Old Broad Street, in the City of London, on
WEDNESDAY, the 18th day of December, 1896, at two o'clock
p.m., for the following purposes:—
To receive the Report of the Directors and the audited statement
of accounts of the company for the six months ending the
30th June, 1896; to declare a Dividend; to elect a Director; to
elect an Auditor, and for other business.
The Transfer Books of the Company will be closed from Monday,
the 7th of December, 1896, until Thursday, the 17th of December,
1896, both days inclusive.
By Order of the Board.
J. JAMESON TRURAN, Secretary.
184, Gresham House, Old Broad Street, London, E.C.,
December 3, 1896.

**THE ENGLISH CROWN SPELTER COMPANY
(LIMITED).**

NOTICE IS HEREBY GIVEN, that at a MEETING of the
Directors of the above Company, held at No. 9, Queen
Street Place, E.C., on the 8th inst., it was resolved:—
"That an interim dividend of 1s. per £1 share, free of income-
tax, be and is hereby declared on account of profits for the year 1896,
and that it be payable on THURSDAY, the 17th instant, to the
shareholders on the books of the Company on Monday, the 14th
December, 1896, and that the Transfer Books be closed during the
said 14th day of December."

By Order of the Board,
E. C. LEAVER, Secretary.
34, Leadenhall Buildings, Gracechurch Street, London, E.C.,
10th December, 1896.

THE NAMAQUA COPPER COMPANY (LIMITED).

NOTICE IS HEREBY GIVEN, that the DIRECTORS have
decided to DECLARE, at their meeting to be held on the 17th
inst., an INTERIM DIVIDEND of 1s. 6d. per Share (free of income-
tax) on account of the current year, payable to the Shareholders
registered in the Books of the Company on that day, and to holders
of Share Warrants to Bearer.

The dividend will be payable on Thursday, the 24th December.
The Transfer Books will be closed during the said 17th day of
December.

By Order of the Board,
C. LEWIS BENNETT, Secretary.
34, Leadenhall Buildings, Gracechurch Street, London, E.C.,
10th December, 1896.

**THE HAURAKI GOLD MINING COMPANY
(LIMITED).**

NOTICE IS HEREBY GIVEN, that a DIVIDEND of 1s. per
share, free of income-tax, will be PAID on and after the 5th
day of January, 1897.

Holders of Share Warrants to bearer must lodge Coupon Serial
No. 7 at the Offices of the Crédit Lyonnais, Paris, or at the
Company's Office, 97, Dashwood House, New Broad Street, London,
E.C., three clear days for examination.

By Order,

W. J. LAVINGTON, Secretary.

London, 11th December, 1896.

COLONIAL BANK.

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Subscribed Capital £2,000,000
Paid up 600,000
Reserve Fund 150,000

THE Court of Directors of the Colonial Bank hereby give notice
that, in pursuance of the provisions of the Charter, a HALF-
YEARLY GENERAL MEETING of Proprietors will be HELD at
the Bank House, No. 13, Bishopsgate Street Within, London, E.C.,
on THURSDAY, 7th January, 1897, at Two o'clock precisely, to
receive the Report of the proceedings of the Corporation, and for
the election of five Directors and one Auditor, in the room of the
following gentlemen, who go out by rotation, viz.:—John James
Cater, Esq., Charles R. G. Hoare, Esq., Nevile Lubbock, Esq.,
Arthur J. McConnell, Esq., and Charles A. Prescott, Esq., Directors;
and T. A. Welton, F.C.A., as Auditor, all of whom being eligible
offer themselves for re-election.

The Transfer Books of the Corporation will be closed on 16th
December, 1896, and reopened on the 13th January, 1897.

By Order of the Court of Directors,
GORDON WILLIAM TURNER,
Assistant-Secretary.
13, Bishopsgate Street Within, London, E.C.,
10th December, 1896.

J. H. HOSKING, F.G.S.,
MINING ENGINEER.

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literary contributions should be addressed to "THE EDITOR." All matter
intended for insertion must be written on one side of the paper only. The
return of rejected manuscripts cannot be guaranteed. The Editor invites
correspondence and items of news or information from readers in all parts
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LONDON: DECEMBER 12, 1896.

THE GOLD FIELDS OF WESTERN ONTARIO.

The chief advantages noted by Professor COLEMAN, be it said, before proceeding further, are the wide extent over which gold has been found, the variety of deposits that occur, the ease with which the region can be reached, and the free-milling character of most of the ores. The gold-bearing veins encountered occur in green chloritic and hornblende schist, probably of "Huronian" age, and are of a bedded or lenticular kind. Sometimes they are found in masses of eruptive granite or gneiss. In the latter case the veins are commonly true fissures, and may be followed for considerable distances. Passengers on the great Dominion highway, the Canadian Pacific Railway, cannot fail to be agreeably surprised to find the monotony of the journey between Fort William on Lake Superior and Winnipeg suddenly interrupted, about midway, by that beautiful sheet of water, the Lake of the Woods. Its attractions have induced not a few sportsmen and others to break their journey at the bright, active little town bearing the unusual name of Rat Portage. This place has gradually come to be known as the centre of a valuable lumbering district, and, from its situation at the head of the lake, as the headquarters of the extensive fisheries yielded by its waters, Rat Portage has now suddenly developed into a mining town, and is likely for some time to come to be the entrance to that extensive gold district into which prospectors, miners, and speculators are already commencing to pour. Reports of gold deposits on the intricate shores of the Lake of the Woods have been circulated for several years. The difficulties of reaching its more remote portions, and the hardships of pioneer life, have, until lately, limited the number of persons acquainted with the country to woodsmen, trappers, and prospectors. Their accounts of the existence of gold have, as a rule, been received with incredulity, for prospectors are generally treated with that scant courtesy extended to prophets in their own country. However, some few men decided to test these reports, and confirm or condemn the tales of the discredited. After hard struggles and many obstacles these enterprising men find themselves the possessors of the properties which have suddenly brought fame and probable fortune to Western Ontario. The remarkable results achieved in the Kootenay district of British Columbia may, perhaps, have given that stimulus and impetus previously lacking. Be that as it may, the accounts which reached the Toronto Bureau of Mines, as a result of preliminary investigations, decided the Government to dispatch a representative to the district. As a consequence, we now have the first official report, and the value of official and impartial information in connection with mining need not be here insisted upon.

Owing to the means of communication furnished by the steamers which ply on the Lake of the Woods, the mines and prospects located on the shores of the Lake of the Woods have received the most attention. The lake, it may be explained, is situated on the border between the provinces of Ontario and Manitoba, whilst its southern end separates Ontario from the United States. Report had, however, assigned a much greater area to the gold-bearing district, commencing much further east. Dr. COLEMAN accordingly commenced his journey at Savanne, a station on the Canadian Pacific Railway, 221 miles east of Rat Portage, and now reports that the region extends about 250 miles westward from Moss Township, and has a width of at least 130 miles, from Lake Minnitakie, 20 miles north of the Canadian Pacific Railway, and southward to the Little America Mine, just south of the international line. It may be remarked, that both here and in the Kootenay country many of the principal gold deposits are situated in close proximity to American territory. Professor COLEMAN decided to start from the eastern extremity. A canoe, as the only practicable means of locomotion and transport, was launched at Savanne, and for over 700 miles the party followed the natural course of the water which, passing through the picturesque Lac des Mille Lacs, forms the Seine River, then Rainy Lake, and as Rainy River flows into the south-eastern corner of the Lake of the Woods. Space does not admit of a detailed account of this interesting and valuable voyage. Indeed, whilst chronicling evidences of the existence of gold almost along the whole route, Professor COLEMAN is careful to base his opinions only upon properties and mines which were in a sufficiently advanced stage of development to enable him to form an accurate judgment of their real value. On Sawbill Lake, which opens into the Seine River, and is about 33 miles south-west from Bonheur Station on the C.P.R., the Sawbill Mine is situated. In July a shaft had been sunk to the depth of 49 feet, and the vein had increased in width from 4 feet on the surface to 6 feet at the bottom, and showed very distinct walls. The vein can be traced for more than 1 mile on the surface, and will, no doubt, afford a great quantity of ore. The ore contains the usual sulphides, and free gold can frequently be seen. A number of other mines are reported in the neighbourhood, and at the Harold Lake Mine a five stamp mill worked intermittently has yielded a number of gold bricks. Shoal Lake may be looked upon as the focal point of the Seine River and Rainy Lake gold region, hundreds of locations having latterly been taken up, and in some cases a considerable amount of work having been done. The most important mines have, however, been found so far in an area of protogine granite about 6 miles in length and 1 in width, lying between Shoal and Bad Vermillion Lakes. The largest amount of development has been done on the Foley Mine, now owned by the Ontario Gold Mines Company. On one of their veins, the Bonanza, one shaft had been sunk to 210 feet, and another, 1200 feet distant, to a depth of 113 feet amongst other work. The vein proves to be very uniform, running from 2 to about 4 feet, and the ore, which contains a considerable amount of visible gold, is said to average \$20 in free milling gold and \$5 in concentrates per ton. A 20 stamp mill is being erected. The Ferguson Mine, owned by the Seine River Gold Mines Company of England, is at present doing mainly exploring work. Several veins, ranging from 1 to 3 feet, are traceable

for hundreds of feet. At the Lucky Coon Mine a shaft has been sunk to the depth of 50 feet, and a five-stamp mill erected. On Rainy Lake itself, gold has been found at many points; but the only mines now worked are two in Minnesota. Northwards, on Lake Manitou, ore deposits of considerable richness exist. A two-stamp mill has been working for some little time, obtaining an average of about \$25 per ton, from small amounts of rock obtained in the neighbourhood. Difficulty of access and the want of a wagon road, by which to bring supplies and machinery, have retarded development.

At length Regina Bay, a part of Whitefish Bay, the long southerly projection of the many-armed Lake of the Woods, was reached. Here the Regina Mine is situated, operated by the Regina Gold Mine Company, of London, England. Good buildings have already been erected, and a shaft sunk 180 feet, whilst 500 feet of drifting has been done on the main vein. Ore runs from \$20 to \$160 per ton. The gold is, however, fine and difficult to save by the present concentrators. The mill is of 10 stamps, and the number of men employed about 50. North-west of the Regina several other locations have been taken up. A number of shafts have also been sunk, and two of the mines, the Golden Gate and the Triumph, are producing gold. The most famous mine in the whole district is, however, the Sultana, situated on an island distant 7 miles from Rat Portage, discovered in 1881. The property was, in 1887, condemned by experts, after a long and careful investigation, as valueless. The intention of floating a company being abandoned, Mr. CALDWELL, a Winnipeg chemist, had sufficient courage to purchase the claim. Operations were slowly commenced, and after much surface prospecting, in 1892 a mill was erected. Despite the many obstacles encountered, Mr. CALDWELL steadily progressed with his work, and his pluck and enterprise have been crowned with the most emphatic success. A great body of rich quartz—in some places 40 feet wide—has been disclosed and followed more than 300 feet in depth. At the third level the excavation, under the waters of the lake, is 40 feet wide, 70 feet high, and 100 feet long. The ore is somewhat quartzitic in appearance, contains 1 or 2 per cent. of iron pyrites, and is free-milling to the extent of 75 or 80 per cent. The ore averages \$15 to \$20 of free gold, and the concentrates, which are being treated in the new chlorination works, will yield \$4 or \$5 more. It is interesting to note in this connection that the cyanide process, first adopted by Mr. CALDWELL, turned out a complete failure, whilst the chlorination plant is just what was needed. A 10-stamp mill is used, and 50 men employed. The owner is unusually reticent as to the output of the Sultana. The weekly gold brick which is produced is, however, conservatively estimated to yield Mr. CALDWELL a net profit of over \$1000 a week (£200). The most interesting development of the year is to be found in the extreme west, 35 miles from Rat Portage, and only 10 miles east of the Manitoba boundary. This is the Mikado Mine, found by an Indian a year ago, and purchased by a London company for \$25,000 (£5000). The property was bought solely on the surface indications, but enough work has now been done to show that the ore is very rich. The first 140 tons mined was milled at the Rat Portage reduction works, and the result was a gold brick worth, it is said, \$8000. The ore now on the dump is estimated to cover the initial cost of the mine and its equipment. The quartz contains a variety of sulphides, including a sulphide of bismuth new to the district, and a considerable portion of the gold is carried in these refractory metals. Probably two-thirds of the gold contents are free milling, the gold occurring as thin plates rather than nuggets. Although the development has only so far been partial, there is good reason to believe that the property is very valuable. This necessarily incomplete sketch refers to a region, which, whilst easy of access, has, in the absence of any attempt at settlement, remained almost a *terra incognita*. If the most primary attempts, save in very few cases, at scratching the surface have brought forth results already of much importance, and holding forth every promise of the existence of extensive and valuable deposits, there should be, as an expert like Professor COLEMAN judges after thorough investigation, an immense future for this country.

In conclusion, a not unfavourable feature of this district is that any previous investigations made have been in reference to its undoubted agricultural possibilities. Well-watered and well-wooded, the erection of the so-called Wabigoon Farm at Barclay, on the Canadian Pacific—formerly regarded as the wilderness—has proved the district to be of high agricultural value. The immense excitement now prevailing in the district regarding the mines will assuredly speedily be followed by the provision of means of transport, the absence of which have alone prevented the pioneer settlers from populating the Rainy River country, of which agricultural experts have already spoken so highly. With gold and farming the future of Western Ontario should be assured.

OUR MINERAL INDUSTRIES.

WE have just received the Second Annual General Report upon the Mineral Industry of the United Kingdom for 1895, compiled by Dr. C. LE NEVE FOSTER, which has thus made its appearance at a much earlier period than did the First Report. It is not too much to say that Dr. FOSTER has succeeded in producing a volume that can scarcely be equalled for interest and importance amongst Governmental publications, and which will go a long way towards redeeming the whole tribe of Blue Books from the low opinion in which they are generally held. It is highly satisfactory to find that our Government has at last seriously awakened to the fact that Great Britain is a competitor with other nations in the markets of the world, and that, as we have so often urged in these columns, it is the manifest duty of the Government to keep the mineral producers of this country fully acquainted with what their various trade rivals are about. This duty has long ago been recognised

and performed by a good many nations, foremost amongst which we may mention France and the United States, and we are delighted to find Great Britain is not to be left behind in this respect. Hitherto producers in this country, who wanted to know what quantity of mineral their rivals were capable of throwing into the market, or under what conditions they were doing so, had to get such information for themselves, or to do without it, as best they could. Now it is being supplied to them by these annual reports of Dr. FOSTER.

This report, like the last, consists of six parts and a number of appendices, the latter being chiefly tables of statistics referring to British mining. Part I. gives a vast amount of information concerning the number of persons engaged in the various forms of mining in this country; these have already appeared in the various issues of the mineral statistics of the country, but not in so compact or convenient a form. It is worth noting that the information concerning quarries now appears for the first time, being, however, limited to such quarries as exceed 20 feet in depth. The total number of workers employed in and about these quarries is returned at 104,625, or about one-seventh of the number of those engaged in mines. This figure alone shows that even in its restricted sense, as here used, the quarrying industry of Great Britain is no unimportant factor in the economic development of the nation. We find further on a very useful little dissertation upon the meaning of the new Quarries Act; as usual, it would almost seem as though in this country each Act of Parliament requires another Act to explain it. The decision of the law officers of the Crown that getting slag from an old slag heap is quarrying mineral, is decidedly amusing. We can only suppose that it is based upon the facts that slag is not a mineral, and that a working above the surface of the soil is not an excavation, and that to the legal mind the two negatives seem to balance one another. How about pulling down an old house, especially when the bricks are carted away for sale? Surely the latter is quarrying if the former is! For these legal vagaries Dr. FOSTER is, of course, not responsible; he has merely done all persons interested a good service by recording them, and thus drawing attention to them. He also gives the legal definition of the depth of a quarry, which seems sensible enough, though not as simple as it looks. Part II. deals with the minerals raised in the United Kingdom, and is again a summary of the previously issued mineral statistics; here, too, special attention is drawn to quarries and to their products, and much useful information is given for the first time in a convenient and readily assimilable form. We do not see that much good is done by the comparison here instituted at some length between the actual output of coal in the kingdom and that predicted by the late Professor STANLEY JEVONS in his famous work, which appeared, as many of our readers will remember, some 30 years ago. We should have thought that it was pretty well known by this time that Professor JEVONS's prophecies had already been contradicted by facts, even without taking into account the recent discoveries of new coal fields and extensions of old ones, to which Dr. FOSTER does not, however, refer.

Part III. deals with accidents in British mines, and ably summarises and dissects the information that has already been issued by the Home Office. A condensed account of some of the more serious accidents of the year and their causes is a very valuable feature, and will prove of great service to those who have not time to read through the lengthy original reports. A number of lives were lost during 1895 by inundations of water into collieries, and we are glad to see that Dr. FOSTER repeats a suggestion of Mr. ATKINSON, that no mine plan should be accepted under the statute unless made by a surveyor possessing a certificate of competency. We have repeatedly insisted that the present law is defective in this respect, and that it is far more important that the colliery surveyor should pass an examination than that the under-manager should, and that it is the duty of our legislative body to see that no man should be allowed to make a colliery plan, unless his competence to do so has been thoroughly proved. We find here some very interesting tables of comparisons of the death rates of British miners with those of miners in foreign countries. Although the data are imperfect, it yet seems that mining in Great Britain is somewhat safer than in most parts of the world, even including, as is but right, such countries—the Cape Colony, for instance—in which natives are largely employed in mining. Dr. FOSTER has also instituted a comparison between the death rate of miners and of persons employed in engineering works, railways and shipping, from which it seems that the death rate from accidents amongst British sailors is about six times as high as it is amongst our miners, although nine people out of ten would, if asked, probably say that the miner's occupation is the more dangerous of the two.

Part IV. deals with prosecutions under the various Mines Regulation Acts, and Part V. is devoted to general remarks largely respecting quarries.

Part VI. deals with the mineral statistics of foreign countries, and is by far the most important part of all, nearly one-half of the present publication being devoted to it. It would obviously be impossible for us to notice this part with anything like the fulness of detail that it merits. We can only say that it is immeasurably superior to anything of the kind that has been done before in this country, and, though still imperfect, shows such marked improvement over the first annual report as to allow us to reasonably expect that we shall have here a thoroughly reliable and complete index to the mineral production of the world in a few years more. Many of the errors that were only too patent in the first report have been corrected in this one, and the tables are, in most cases, well up to date. We are, however, surprised to see Dr. FOSTER state that the figures for Hungary for 1894 are not yet available, because they were published in the beginning of the present year in the *Oesterreichische Zeitschrift für Berg und Hüttenwesen*, in which they have almost the force of an official publication, and can safely be adopted.

We are glad to see that metric tons and kilograms are throughout used as the standards of reference for weights, but to our mind it is at least as important that a uniform standard for values should be adopted, and this standard should, in our opinion, be pounds sterling, whilst there should in every case be a note giving the monetary unit of the country in question, and the rate of exchange at which the calculations have been made. We look upon this as absolutely indispensable if these tables are to be as useful as they should be to English miners.

It is curious to find this publication of the British Government quoting some of its statistics, notably those for South America, from the Mineral Industry, and this is, we think, the highest possible compliment that could well be paid to its able editor, Mr. R. P. ROTHWELL. It constitutes a tacit acknowledgment that he, a mere private individual, and the editor of an American newspaper, is capable of securing more reliable statistics as to the mineral output of remote countries than can be obtained by the high officials of our own Home Office, backed by the extended diplomatic and consular relations, and the enormous power and wealth of the richest country in the world. Whilst thus a compliment to Mr. ROTHWELL, it is the most crushing condemnation at the same time of our foreign consular representatives. They it is, whose duty it ought to be to collect such statistics, and to supply them to Dr. FOSTER, instead of compelling that gentleman to fall back upon an American newspaper for his information. Dare we hope that our Consuls abroad will see this matter in its true light, and wake up to their deficiencies? If not, we hope that they will receive a sharp awakening from this side.

We notice that Dr. FOSTER says that no complete mineral statistics of the Chilean Republic are published. He is obviously unaware that Chile publishes by far the best mineral statistics of any South American Republic. We have, in the first place, the annual official *Estadística Comercial de la República de Chile*; and, in the second, two valuable unofficial publications that give also most useful information—namely, the *Boletín de la Sociedad Nacional de Minería*, and the *Boletín de la Sociedad de Fomento Fabril*, both published in Santiago. In these, Dr. FOSTER will also find full tables of the export of Bolivian mineral produce from the Chilean port of Antofagasta, which practically means the mineral production of Bolivia. Information about the Dutch East Indies again is provokingly scanty. We wonder that Dr. FOSTER has not availed himself of the well-known admirable *Jaarboek van het Mijnwezen in Nederlandsch Oost-indie*, which would have enabled him to show how the production of those islands is distributed amongst them. We are pleased to see such complete statistics of Indian mineral productions, though the values attached to some of the items appear somewhat fantastic. We are also glad to see statistics of the production of tin ore in Siam, but it would be all important to know whether the amount here given is produced in Siam proper, and whence and whether it is shipped, or whether it comes from the Protected Siamese Malay States, and is thus shipped via Penang as "Straits tin." Why, too, is there no return of gold, or rubies, or of sapphires from Siam? All these substances are certainly produced in that country, which may, before very long, be proved to be rich in minerals of all descriptions. The information given under the head of the Straits Settlements is very fairly complete and very welcome, but it is hard to see why Sungai Ujong and Jelebu should be included in Negri Sembilan; the two former are under one administration but are quite independent from the latter. Under the head of the United States we should have expected that an official publication would have preferred to use the figures given in Mr. D. T. DAY's annual volume of mineral statistics published officially at Washington, rather than those in Mr. ROTHWELL's admirable but non-official publication.

Although we have pointed out several respects in which these statistical tables are still susceptible of improvement, we trust we have made it abundantly clear that we have done so in no carping spirit, but rather with a sincere desire that what we have said may be found of value to the compilers when future reports are being prepared. As we have already pointed out, nothing of greater value to the British mineral industry has appeared for a considerable time, and we take it that we should be falling short in our duty if we did not contribute all that lies in our power to enable future numbers to reach a higher standard of efficiency and accuracy, and, therefore, of public utility.

THE CHAMPION REEF.

The report which the directors of this company have just issued will be real by the shareholders with complete satisfaction. The general tenor of it was, of course, anticipated, for the steady and increasing returns during the past 12 months, together with the general progress which has been made in every department, have been laid before our readers month by month. For a long time now Indian shares have been amongst the most attractive in the market, and during the height of the depression it is safe to say that they suffered the least of any. Champion Reefs, especially, have been very strong, and those who purchased them, even at the highest prices, are not likely to regret it. A splendid record of work has been achieved during the 12 months covered by the report, whilst there is every promise that more brilliant work will be accomplished in the future. For instance, a great deal may be expected from the cyanide plant, which has just been set to work. It bids fair to be a great success, and when it is in full operation, and the initial difficulties have been overcome, the shareholders may look forward to much larger monthly outputs. Then there is the prospect of the mine opening out rich in depth, which, indeed, may be looked upon as a certainty. On this point the superintendent pens the following encouraging paragraph:—"I am pleased to

be able to state that during the year we have opened up some valuable ore ground throughout the mine, and I do not see any reason to doubt but that we shall continue to do so in depth. We may, I think, with confidence, look forward to a good increase in the returns during the coming year." Coming to the actual results and figures, the gold produced during the year realised the gross sum of £302,500, leaving as net proceeds, after payment of royalty, the sum of £287,516 4s. 10d. The profits amounted to £154,067 13s. 6d., exceeding that of the previous year by no less than £14,674. Two interim dividends have been paid during the year—viz., 4s. per share on May 1 and 4s. 6d. on September 1—and the directors now recommend a further dividend of 5s. per share, carrying forward the sum of £854 18s. 5d. This will make a total distribution for the year of 67½ per cent. The following table gives the gold returns for the 12 months:—

Period.	Quarts stamped.	Bar gold produced.	Quantity of tailings treated.	Bar gold extracted.	Net amount realised.
	Tons.	Ozs.	Tons.	Ozs.	£.
October	4,850	5,891	1,250	313	23,651 9 3
November	4,780	5,910	1,200	318	23,776 16 3
December	4,855	5,968	1,110	269	23,812 2 7
1893.					
January	4,850	5,967	1,210	324	24,030 15 5
February	4,725	5,990	1,140	314	24,081 4 3
March	4,950	6,203	1,180	300	24,868 14 0
April	5,000	6,209	1,820	434	25,393 4 1
May	5,980	6,229	2,010	510	25,682 12 6
June	4,400	5,980	1,740	453	24,638 14 0
July	5,000	6,083	2,100	534	25,328 1 4
August	6,020	6,409	2,320	602	26,665 8 0
September	6,747	7,012	2,180	593	29,075 19 7
	63,157	73,851	19,260	4,964	302,500 2 1

The above figures show an increase on last year's results of 13,452 tons of stone stamped, 5875 tons of tailings treated, 10,498 ounces of gold produced, and £38,040 7s. 9d. in value.

SHEBA GOLD.

The shareholders of the Sheba Gold Mining Company have been somewhat anxious during the past three or four months at the steady decrease in the output, and certainly it is a circumstance calculated to engender some discouragement. In January of the present year the output jumped up by considerably over 2000 ounces a month; this was augmented slightly in the following month, whilst in March it again increased by a further 2000 ounces. In April it declined by a similar amount, and has continued to decline every month until October. For November it has increased, and as this happened in spite of the fact that the mill only ran 19½ days, it should greatly assure the shareholders, and relieve, in a great measure, the anxiety which they have naturally felt. The average yield per ton has been very high—viz., 1 ounce 14 dwts. 3 grains, as will be perceived from the following table:—

	Quarts crushed.	Yield.
	Tons.	Ozs. dwts. grs.
1893. October	2,900	4,247 17 12
" November	2,930	4,204 3 0
" December	3,100	4,693 9 12
1894. January	3,130	7,011 2 0
" (clean up old mill)		380 0 0
" February	3,100	7,439 3 0
" March	3,035	9,826 2 12
" April	3,500	7,297 6 0
" May	4,200	6,818 5 0
" June	3,850	5,482 19 0
" July	4,370	5,480 10 0
" August	4,400	4,425 19 12
" (clean up old mill and slags)		224 0 0
" September	3,300	4,574 5 0
" (clean up old mill)		300 0 0
	41,815	72,295 2 0

The following figures, giving the monthly returns from the cyanide works, will also bear inspection, and are likely to give complete satisfaction, showing, as they do, the excellent average yield of 12 dwts. per ton:—

	Quartz crushed.	Yield.
	Tons.	Ozs. dwts. grs.
1893. October	4,250	2,181 1 12
" November	3,400	1,728 1 0
" December	2,850	1,375 6 0
1894. January	3,450	2,138 13 12
" February	3,400	2,050 19 0
" March	3,200	2,111 9 0
" April	3,300	2,238 14 0
" May	3,350	2,002 14 0
" June	3,450	2,190 4 0
" July	2,950	1,748 7 12
" August	3,060	2,332 1 12
" September	2,650	1,506 7 12
	39,300	23,603 18 12

Altogether the results of the year's working have been excellent, and the shareholders are not likely at the forthcoming meeting to give expression to any feelings of dissatisfaction. They have been paid three dividends of 5 per cent. each, they have a good balance in hand, and as some very promising discoveries have been made, there is every inducement for them to look to the results of the current year with confidence and hope.

BRITISH GUIANA AND THE VENEZUELAN.

OWING to the delicate situation into which the industries of British Guiana have been put by the foreign sugar bounties, everything which contributes, in no matter how small a degree, to the pacification and settlement of that colony is of the very first importance. It is on this

and other grounds highly satisfactory to observe the pacific tone adopted in the American President's last message to Congress, and the certainty, every week becoming stronger, that the settlement of the disputed boundaries will be a matter rather for diplomacy than bayonets. With the withdrawal of American patronage from the Venezuelans we may expect to see a considerable shrinkage in the demands of that nation, and a rather less aggressive attitude adopted by its accredited agents. The matter of difference which has been for so long a time in issue will thus be brought considerably nearer settlement, and it will not be too soon, for the cloud of uncertainty hanging over British Guiana cannot but be productive. Unfortunately the richest part of the gold territories seem to lie near the debatable ground, and it would be too much to expect that the mines in that locality should be attacked with the same happy conjunction of enterprise and vigour which is essential to their successful opening up. It is true that the Venezuelans have done something towards allaying the natural anxiety in this connection by assuring the leaders of the industry that, whatever settlement may ultimately be given to the territorial question, mining will be given every encouragement which the Venezuelans find it in their power to afford. At the same time, the miners may be pardoned for devoutly hoping that English and not Venezuelan may be the rule reserved for their ultimate destiny, since the Republic, though one of the best administered of the South American States, leaves at the same time a good deal to be desired in the way of stable and propitious Government. There is no need at this time to insist upon the tremendous influence exerted upon any branch of industrial activity by the particular form and character of the Government under which it is pursued, and the future of gold mining in the region in question will, no doubt, be considerably affected by the political question now hanging in the diplomatic balance. Whatever else can be said of them, no one would venture to state that the negotiations now in progress have been conducted with indecorous haste. What may be regarded as the doubtful territory has not been in dispute for less than a quarter of a century, while the difference in its most acute international phase has troubled the world's peace for nearly a year, and has been the indirect and insufficient instrument of provoking a good deal of dangerous feeling between two kindred nations. President CLEVELAND's valedictory address has been somewhat reassuring as to the ultimate issue of the question, and the "Venezuelan difficulty" may be said now to be removed beyond the class of questions likely to occasion foreign complication.

THE NEW AMERICAN TIN PLATE "COMBINE."

The news cabled this week that a new agreement has been made by the Tin Plate Manufacturers' Association of America, and a list of prices drawn up on the basis of \$3.65 (14s. 8½d.) per box of 14 by 20 I.C., weighing 108 lbs, affords distinct evidence of the revival in that particular branch of American industry which has set in now that MCKINLEY has been returned. American manufacturers of tin plates have lately sold their production rather freely, but they have generally been unwilling to enter into contracts for delivery extending beyond January or February next, because of the upward tendency in the quotations of steel, which, of course, forms the basis of tin plate, and because they hoped to obtain higher rates for their production later on. The new price is understood to affect an area extending westward from the Atlantic to Chicago and Milwaukee; beyond this range prices vary in accordance with the additional cost of carriage. The new standard is believed to be high enough to afford a satisfactory profit without encouraging imports from Wales. If demand improves a further advance will probably be made, but the purpose of preventing as far as possible the further ingress of Welsh tin plates will, unfortunately, always be kept in view. The present import duty of 11-5 cents per lb. upon Welsh plates entering America is equivalent to 5s. 4d. per box of the description just referred to—or, it will be seen, more than one-third of the new agreed upon price—and yet the American tin plate manufacturers will, it is said, ask for further protection in the event of a new tariff bill being prepared! The absence in President CLEVELAND's message to Congress of any very advanced views upon tariff reform, such as were feared would be indulged in, is a crumb of comfort to our Welsh manufacturers, though by no means follows that, therefore, the tariff will not be further raised. Meanwhile they have to face the unpleasant fact that the total quantity of tin plates sent from Wales to the United States in November this year has dwindled down to the miserable total of 5840 tons, or about a third of what it was in the same month last year (16,186 tons in November, 1893), and about a quarter of what it was two years ago (22,832 tons in November, 1894). No wonder, with our chief market falling off in this manner our total tin plate exports to all markets are showing up badly. It is true that a temporarily improved demand from America has set in since the election, but the general position is deplorable, and the Welsh tin plate trade has our deepest sympathy.

NEW HAURAKI AND GOLDEN PAH.

It is too early yet to pronounce any decided opinion upon the future of these two properties. Both have held their meetings during the week, and a perusal of the speeches delivered at each, of which we give full reports elsewhere, will enable shareholders and others to form their own judgment. What is true is that the shareholders look to the future of their respective companies with considerable confidence, for the situation of each is such as to promise success. In the New Hauraki, development has been proceeded with in a satisfactory manner, with encouraging indications. That is really the history of the progress up to date. Certainly, on the face of it, it does not seem much; but it is solid and substantial, and should lay the foundation

of ultimate success. For taking up this in itself is well known, all celebrated all distinct lodges on the Hauraki which this co-watched with the

DECEMBER 12, 1890.

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tion of ultimate prosperity. The Golden Pah Company was formed for taking up 19 acres of the celebrated Hauraki property, and this in itself is almost sufficient to inspire perfect confidence in the minds of the shareholders. The history of the Hauraki is well known, and its remarkable richness has made the property celebrated all over the world. We are told that there are five distinct lodes running through the Golden Pah, and that two of these have exactly the same bearing as the principal main lodes on the Hauraki. This is decidedly promising, and the progress which this company makes during the next 12 months will be with the keenest interest.

THE MINING MARKET.

FRIDAY EVENING.

An easy Settlement followed by a smart rise in Kaffirs on encouraging reports from the Rand.— West Australians firm, Miscellaneous inactive.

FTER rather more seesaw movement than we have seen for some time past, the Mining Market is displaying a firm tendency with advancing prices, more especially in the African section. The outlook at the moment is decidedly more encouraging, though it is obviously unwise to attempt prophecy as to the duration of this or any other condition of things. The general opinion seems to be that markets are fairly well bottomed, even if there is not much encouragement to look for a substantial rise. Saturday was a very quiet day, weakness being reported from Paris, whilst operators on this side evinced no desire to enter upon fresh commitments. During the last hour, however, some quiet buying of Kaffirs imparted an air of hopefulness to the market, and closing prices were generally above the level of the preceding night. This tendency was extended to the Westralian section, though the actual improvements scored were not large. Monday morning showed that the early birds had been well inspired, for the leading Kaffir fancies opened appreciably higher, and throughout the day a succession of small purchases gave an appearance of activity such as had not been seen for some time. It was regarded as significant that so much buying should take place on the eve of the settlement, indicating clearly the existence of a bear position in the ranks of the professionals. Westralians in a less degree reflected the strength of the African market market, and New Zealanders were steady, but Indians were dull. On Tuesday morning there was quite a scramble amongst the bears, with the result that prices rose appreciably before mid-day, and the making-up list was fixed at nearly the best points touched. No sooner was the carry over strangled, however, than the bears returned to the market, and the price of the leading shares fell again. The market was again quiet, and the making-up list was fixed at 21½. The last price to-night is 23½, marking a gain of 2½ on balance. Improvements of ½ are shown in Nourse Deep at 4, Rocdepoot Deep at 1, and Champ d'Or Deep at 1½. The improved returns from the mines have had a marked effect on the shares of most dividend-payers. Citys have risen ½ to 3½, Ferreira ½ to 18½, Geldenhuys ½ to 3½, Henry Nourse ½ to 6½, Heriot ½ to 7½, Jumper ½ to 4, Modders ½ to 3½, Nigel ½ to 2, Simmer and Jack ½ to 4½, Wenner ½ to 6½, Crown Reef ½ to 9½, Durban-Rocdepoot ½ to 6½, Knights' ½ to 4½, Meyer and Charlton ½ to 5½, Robinson ½ to 8½, Transvaal Gold ½ to 4½, Van Ryn ½ to 3½, and Vogelstruis and Wolhuter ½ each to 4 and 4½ respectively. The Barnato group has not been specially selected for attention, but prices are generally better. Glencairns have risen ½ to 2½, Primroses ½ to 4½, Johannesburg Investments ½ to 2½, Buffelsdoorn ½ to 1½, and Barnato Consols ½ to 1½. Robinson shares have received a fair amount of attention, and gains of ½ are shown in Langlaagte at 4½, Randfontein at 2½, and Robinson Banks at 4½. Land and Exploration shares are generally better. African Estates have risen ½ to 1½, Bechuanaland ½ to 1½, Mashonland Agency ½ to 1½, Mozambique ½ to 1½, New Africans ½ to 2, Oceanus ½ to 1½, Rhodesia Exploring ½ to 4½ and Willoughby Consols ½ to 1½. Henderson's Estates have been helped by the issue of a satisfactory report and closed ½ up at 2. Klerksdorps have rallied 1s. 6d. to 9s. Small gains are shown in the Lydenburg shares. De Beers have risen ½ to 29½, and Jagers ½ to 10½.

West Australians

Contango rates in this department were on very much the same scale as they have been lately, operators having to pay from 7 to 10 per cent. according to their personal credit. The event of the week has been issue of the prospectus of the Northern Territories company offering for sale on behalf of the subscribing Trust companies 295,000 shares at £3 per share. To make things smooth for this issue, the shares have been bid up in the market to £4. Joint Stock Trusts have risen $\frac{1}{2}$ to $2\frac{1}{2}$ premium, and Associated are $\frac{1}{2}$ up at $2\frac{1}{2}$. Associated Southern are unchanged at 1, and Lake View South at $1\frac{1}{2}$. A small excitement has taken place in North Boulders which jumped up to $1\frac{1}{2}$ on a good crushing return. The shares are finally better at 1. Great Boulders have risen $\frac{1}{2}$ to 6 $\frac{1}{2}$, but the strongest share in this group is Hannan's Brownhills, $\frac{1}{2}$ better at 4 $\frac{1}{2}$. Lake Views are $\frac{1}{2}$ up at 7, and Paddington Consols have scored $\frac{1}{2}$ at $1\frac{1}{2}$, but Lady Lochs have lost a similar fraction at $1\frac{1}{2}$. The Menzies group shows no particular changes. Lady Shenton are the turn harder at 2, whilst small losses appear in Menzies Mining and O'Driscoll, both at $\frac{1}{2}$, and Menzies Reef at $1\frac{1}{2}$. White Feathers, after being better, are finally unchanged at 15, whilst Hit or Miss and Wealth of Nations, both at $1\frac{1}{2}$, are respectively $\frac{1}{2}$ and $\frac{1}{2}$ better. Ramage Syndicates have improved $\frac{1}{2}$ to 1. Hampton Plains are unaltered at $2\frac{1}{2}$, as are Mainland Consols at $1\frac{1}{2}$, and Exploring and Finance and London and Globe at $3\frac{1}{2}$, but Western Australian Goldfields have lost $\frac{1}{2}$ at 5 $\frac{1}{2}$. The Western Australian Trading Corporation is on the eve of reconstruction. The Ordinary shares have been down to 1s, but have rallied to 2s. The Founders are 1 $\frac{1}{2}$ lower at $1\frac{1}{2}$.

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South Africans.
 When the market was flat on Tuesday, bears were full of gloomy forebodings of another decrease in the Rand output. The actual figures, published on Thursday, gave them a disagreeable surprise, for in spite of the fact that there was one less working day in the month, the figures were well over those for October. The return published by the Chamber of Mines was the first to come to hand, and this showed a falling of 4175 ounces, but this loss was more than compensated for in the yield of the companies reporting through the Association of Mines, which showed an increase of 5399 ounces. The total output for the month thus reached 201,113 ounces, as compared with 195,218 ounces for November, 1907.

The carry-over on Tuesday revealed no important alteration in the position of the account. If anything, rates showed a disposition to harden as the day proceeded, though as the bears are the professionals ranged against the bulls amongst the public, too much reliance must not be placed upon deductions on this head. The contango on Gold Fields opened at 3 per cent, and went to 5. East Rands opened at 4, and went to 6. Chartered were done at 1d. in the morning, but the rate hardened to 2d., whilst the general charge on gold shares was 6 to 7 per cent. On Johnny's Investment the contango was finally 8 per cent. *Afternoon.*

A rumour was started in the middle of the week to the effect that the Goldfields company would shortly be making a new issue of shares to provide funds for the financing of some of the Deep Level undertakings in which it is interested. It was asserted that the price of issue would be such as to constitute a bono to holders. At first the bears set to work to sell on this supposition, but second thoughts convinced them that to be short of rights, as well as original shares, was rather a hazardous position, and the new issue was quickly converted into a bull point. Nothing definite as to the directors' intentions has yet been published. The whole story may be an invention,

though it has sufficient probability on its side. The Deferred

though it has sufficient probability on its side. The Deferred shares which during the last account were sold down to 7½ were made up at 8½. On Wednesday they were offered down to 7½, but close to-night a full point above that price, and 1½ better on the week. Chartered have been very well supported, closing ½ better at 22. Gold Trusts have scored a full point at 6½, and Goldfields Deep 1½ at 7½. East Rands have been subjected to several severe attacks in token of the disapproval with which the market regards the latest plan of financial jugglery propounded by the directors, otherwise the H. F. Syndicate. The shares have, however, rallied in sympathy with the general improvement, closing ½ up at 4. Anglo-French Explorations have gained ½ at 3½, Comets ½ at 1½, and Angelo ½ at 3½. Deep Levels generally have been beneficially affected by some encouraging crushing returns. The Geldenhuys return for November showed an increased yield of 1120 ounces, and a profit of over £4000. The shares are ½ better at 4½, which is also the quotation of Consolidated Deep Levels. Nigel Deep have risen ½ to 1½, on the announcement that the Nigel Reef had been struck, assaying 3½ ounces to the ton. The Goldfields company is a big holder of these shares, and will benefit proportionately. The Bonanza announced a yield of 7182 ounces for November, with a profit of £17,000. This mine immediately adjoins the Robinson Deep, the shares of which are largely held by the Goldfields Deep. Rand Miners have risen to 2½ on Thursday morning, after

Tin
 Has been, on the whole, a yielding market this week, unsupported by any noteworthy speculative support, so that the sales made though not particularly extensive, resulted in a considerable fall in prices. The opening was firm at £38 10s. cash Stats, and £59 7s. 6d. three months, 5s. less being taken during the day. On Tuesday, £58 2s. 6d. s.c., and £59 1s. 3d. three months were done. On Wednesday, £57 18s. 9d. and £58 16s. 3d. respectively were touched, whilst Thursday closed at £57 17s. 6d. and £58 15s. To-day we had a rather firmer market, with business at up to £58 s.c. and £58 16s. 8d. three months, the two positions closing respectively at £57 to £53 17s. 6d. and £58 15s. to £58 17s. 6d. In the Dutch market the relapse amounts to $\frac{2}{3}$ fl.—viz., the closing values being 35 fl. s.c. and 35 $\frac{1}{2}$ fl. three months Billiton, and 35 $\frac{1}{2}$ fl. Banca s.c.

Pig Iron

Scotland shipped last week about 3000 tons, or 900 tons more than in the same week of last year. The course of the Glasgow market was at first downwards, business being done at from 48s. 5d. down to 47s. 10d., this, the lowest limit, being attained on Wednesday. Since then values have recovered briskly, and the close is firm at 48s. 3d., sellers s.c. and 48s. 6d., a month. Hematite is quoted 50s. 4d., and Middlesbrough at 40s. 3d.

Lead

Remains decidedly quiet, and values have ruled rather under last week's close, with a limited demand. The final quotations are £11 8s. 9d. to £11 10s. soft foreign, and £11 12s. 6d. to £11 15s. English.

Spelter

Has likewise been devoid of animation during the period under review, and the close is dull at £17 10s. to £17 11s. 3d. ordinary, and £17 15s. specials.

Antimony

Is steady at £29 10s. to £30.
Quicksilver

Quicksilver

Remains steady at £6 12s. 6d. firsts, and £6 11s. second

The following are to-night's (December 11) prices of metals:—

	Copper	per lb.	per lb.	per lb.
Teugh cake and ingot	51 15 0	52 0 0	52 0 0	52 0 0
Best selected	52 2 8	53 2 8	53 2 8	53 2 8
Electrolytic Copper	53 0 0	55 0 0	55 0 0	55 0 0
Sheets and sheathing		57 0 0	57 0 0	57 0 0
Flat bottoms		58 0 0	58 0 0	58 0 0
Chill bars	48 15 0	49 7 6	49 7 6	49 7 6
Good merchantable, pot, & 3 months respectively				
Copper tubes, seamless	50 0 0	50 0 0	50 0 0	50 0 0
Alloys				
BRASS : Wire				0 0 61
" Tubes (solid drawn)				0 0 7
" Sheets				0 0 82
PHOSPHOR BRONZE : Alloys II				
" III, or				81 0 0
" VII				83 0 0
" XI				75 0 0
" Vulcan brand Al				72 0 0
DUBU METAL				73 0 0
BULL'S METAL				66 0 0
Ferrobronze (Vivian's)				
Ingots...	per lb.	0 0 83	0 0 83	0 0 83
Ordinary sheets, plates, bolts and bars		0 0 73	0 0 73	0 0 73
Screw bolts and nuts		0 0 83	0 0 83	0 0 83
Pump rods, plain		0 0 73	0 0 73	0 0 73
" finished		0 0 103	0 0 103	0 0 103
DELTA METAL : No. 4 (per ton)				
" Sheets and plates (per lb.)				
" Bars, round, square, flat (per lb.)				
" " hexagon (per lb.)				78 0 0
Tin				
English, Ingots, f.o.b.		62 5 0	62 10 0	62 10 0
" bars		63 5 0	63 10 0	63 10 0
" refined		64 5 0	64 10 0	64 10 0
Straits, spot, and three months respectively		58 0 0	58 17 6	58 17 6
Australian, spot, and three months respectively		59 15 0	60 12 6	60 12 6
Bands	(in Holland)	59 10 0	59 12 6	59 12 6
IRON PLATES : Charcoal, best quality	per box	0 14 0	0 18 0	0 18 0
" ordinary		0 11 0	0 13 0	0 13 0
" Coke, best quality		0 10 9	0 11 3	0 11 3
" ordinary		0 10 3	0 13 0	0 13 0
These prices of tinplates are f.o.b. at Swansea; at Liverpool 8d. per box more.				
Iron				
Fig. S.M.S., f.o.b., Clyde, spot				2 8 31
" Scotch pig, No. 1 Gartaherie				
" " Coltness				2 14 0
" " Clyde				2 11 8
" " Goran				2 10 0
Bars, Welsh, f.o.b., Wales...				2 12 5
Plates				
" Bars, Staffordshire, at works				6 0 0
Sheets				6 10 0
Plates				6 10 0
Hoops				6 1 8
Ship plates, Middlesborough				5 7 6
STEEL : English spring		12 0 0	18 0 0	18 0 0
" east				42 5 6
" rails at works, according to section		4 12 8	5 0 0	5 0 0
Lead				
Spanish or soft foreign		11 8 0	11 13 0	11 13 0
English pig, common		11 12 0	11 15 0	11 15 0
" L.B.				12 0 0
" sheet and bar lead				12 10 0
" pipe				13 0 0
" red				14 10 0
" white				17 10 0
" patent shot				15 5 0
Solder				
Silesian ordinary brands		17 10 0	17 11 3	17 11 3
" special brands				17 15 0
English Swansea				18 5 0
Sheet Zinc		20 5 0	28 10 0	28 10 0
Antimony				
Antimony		29 10 0	30 0 0	30 0 0
Quicksilver				
Flasks, 75 lbs. warrants		6 11 0	6 12 0	6 12 0
Ore, c.i.f., U.K. ports			per unit.	
1st quality, 50 per cent, and upwards		0 0 11	0 1 1	0 1 1
2nd " 47 per cent, to 50 per cent.		0 0 10	0 1 0	0 1 0
3rd " 40 " 47 per cent,		0 0 8	0 0 11	0 0 11
Aluminium				
28-99 per cent.		0 1 1 4%	0 1 1 6	0 1 1 6
28-99 per cent, guaranteed		0 1 2	0 1 4	0 1 4
Nickel				

The BALAGHAT MYSORE MINES (LIMITED) has sold the gold obtained during the month of October last, which realises £991 18s. 2d.

“THE MINING JOURNAL” SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay.*, Antimony; *A.*, Arsenic; *B.*, Blands; *Bz.*, Borax; *C.*, Copper; *D.*, Diamond; *G.*, Gold; *I.*, Iron; *L.*, Lead; *M.*, Muriate; *P.*, Phosphates; *Q.*, Quicksilver; *R.*, Ruby; *S.*, Silver; *S.*, Silver-lead; *Sul.*, Sulphur; *T.*, Tin; and *Z.*, Zinc. * in the “Amount of Share” column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and *t.*, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

* The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire to be understood that while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, Dec. 11, 1896	Closing Price Dec. 4, 1896	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
Adler Consolidated	56 7/8	56 1/2	56 1/2	1 0	2/ Oct. 1 st , '96	5 2/8	250,000	Transvaal, De Kaap...
African Estates	12 1/2	12 1/2	12 1/2	1 0	3/arts Oct. 16 '95	1 0 0	438,000	Transvaal, De Kaap...
“ Gold Envry.	5 1/2	5 1/2	5 1/2	1 0	1/ Oct. 30 '95	1 0 0	175,000	Transvaal, De Kaap...
Afrikaner G	1 1/2	1 1/2	1 1/2	1 0	rts May 24 '95	1 0 0	40,000	Transvaal, De Kaap...
Alexandra Estate G	5 1/2	5 1/2	5 1/2	1 0	—	1 0 0	225,000	Transvaal, De Kaap...
Angelo G	3 1/2	3 1/2	2 1/2	1 0	—	1 0 0	175,000	Transvaal, De Kaap...
Anglo-French Exp. “ Mataleland	3 1/2	3 1/2	2 1/2	1 0	3/ Sept. 30 '96	5 0 0	30,300	8. Africa, Matabid. Winchester House, Dashwood House, West Cost
Appleton G	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	39,750	8. Africa, Matabid. Winchester House, Dashwood House, West Cost
Aurora G	5 1/2	5 1/2	5 1/2	1 0	5% Mar. '93	1 0 0	77,850	8. Old Envry. I
“ West United.	5 1/2	5 1/2	5 1/2	1 0	—	1 0 0	65,000	8. Old Envry. I
Balka Verstelling G	1/ 1	1/ 1	1/ 1	1 0	—	1 0 0	100,000	Transvaal, De Kaap...
“ Land	3 1/2	3 1/2	3 1/2	1 0	1/ Feb. 13 '96	1 0 0	520,000	Transvaal, De Kaap...
Bauties Consol. G	2 1/2	2 1/2	1 1/2	1 0	rts Sep 24 '95	1 0 0	520,000	Transvaal, De Kaap...
Barnato Consol. G	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	1,000,000	Transvaal, De Kaap...
Barrett. G	11/ 12	10 1/2	10 1/2	1 0	—	1 0 0	207,995	Transvaal, De Kaap...
Bechuanaland Exp.	1 1/2	1 1/2	1 1/2	1 0	rts Jy 24 '95	1 0 0	400,000	Transvaal, De Kaap...
Big Golden Quarry	1/14	1/14	1/14	5/-	—	0 5 0	483,228	Kaap Nivr. Rand ...
Block “ B ” Lang.	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	535,000	Kaap Nivr. Rand ...
Bontane.	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	2,000	Kaap Nivr. Rand ...
Butt. S. A. Char.	3 1/2	3 1/2	2 1/2	1 0	rts Nov 12 '96	1 0 0	995,200	Transvaal, De Kaap...
Buffelsdrift. G	11/ 12	11/ 12	11/ 12	1 0	16/ Nov. 28 '95	1 0 0	250,000	Transvaal, De Kaap...
“ Central	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	—	Transvaal, De Kaap...
“ Consolidated	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	225,000	Transvaal, De Kaap...
Cape Asbestos.	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	50,311	Transvaal, De Kaap...
“ Copper. C	2 1/2	2 1/2	2 1/2	2 0	3/ Dec. 11 '96	2 0 0	300,000	Transvaal, De Kaap...
“ S. Pref. G	2 1/2	2 1/2	2 1/2	2 0	3/ Dec. 11 '96	2 0 0	45,000	Transvaal, De Kaap...
Cassel Coal. G	1 1/2	1 1/2	1 1/2	1 0	1/ 5 Oct. 29 '96	1 0 0	75,000	Transvaal, De Kaap...
Cen. de Kaap.	9/ 10	9/ 10	9/ 10	5/-	—	0 5 0	240,000	Transvaal, De Kaap...
“ Hoopdr. Deep	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	220,000	Transvaal, De Kaap...
Champ d’Or. G	1 1/2	1 1/2	1 1/2	1 0	3/ Feb. 27 '96	1 0 0	116,016	Transvaal, De Kaap...
Charterland G.F.	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	150,000	Transvaal, De Kaap...
Chimes West.	5 1/2	5 1/2	5 1/2	1 0	—	1 0 0	150,000	Transvaal, De Kaap...
City and Sub. N.W.G	7 1/2	7 1/2	7 1/2	4 0	2/ Oct. 29 '96	4 0 0	340,000	Transvaal, De Kaap...
Con. Bultfontein D	31/ 32	31/ 32	31/ 32	1 0	9/ July 15 '96	1 0 0	721,500	Transvaal, De Kaap...
Con. Deep Levels G	4 1/2	4 1/2	3 1/2	1 0	6/ Oct. 29 '96	1 0 0	187,250	Transvaal, De Kaap...
Con. G. Fields S.A. G	8 1/2	8 1/2	7 1/2	1 0	15/ Nov. 12 '96	1 0 0	1,250,000	Transvaal, De Kaap...
Do. 6 1/2 Pref. G	1 1/2	1 1/2	1 1/2	1 0	7 1/2 Jn 26 '96	1 0 0	1,242,999	Transvaal, De Kaap...
Do. b. Z. Deben. G	107 1/2	107 1/2	107 1/2	5 0	5 1/2 % July 1, '96	5 0 0	60,000	Transvaal, De Kaap...
Crown Deep. G	9 10	9 10	9 10	1 0	—	1 0 0	250,000	Transvaal, De Kaap...
“ West. G	9 10	9 10	9 10	1 0	12/ Oct. 19 '96	1 0 0	120,000	Transvaal, De Kaap...
De Beers Consol. D	29 1/2	29 1/2	29 1/2	8 0	22/ July 15 '96	6 0 0	789,791	Transvaal, De Kaap...
Do. 5% 1st Deb. D	107 1/2	107 1/2	107 1/2	1 0	5 1/2 % July 1 '96	1 0 0	23,500,000	Transvaal, De Kaap...
Do. 4% Z. Bul. Ob.	99 101	99 101	99 101	1 0	4 1/2 % Oct. 1 '96	1 0 0	672,000	Transvaal, De Kaap...
Driftfontein. G	25 1/2	25 1/2	15 1/2	1 0	—	1 0 0	175,000	Transvaal, De Kaap...
Durban Hoopdr. G	6 1/2	6 1/2	6 1/2	1 0	3/ Sept. 15 '96	1 0 0	2125,000	Transvaal, De Kaap...
“ Deep. G	3 1/2	3 1/2	3 1/2	—	—	1 0 0	—	Transvaal, De Kaap...
Eastleigh. G	9 1/2	9 1/2	9 1/2	1 0	rts May 14 '96	1 0 0	240,000	Transvaal, De Kaap...
East Orion. G	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	275,000	Transvaal, De Kaap...
“ Hand. G	3 1/2	3 1/2	3 1/2	1 0	—	1 0 0	570,000	Transvaal, De Kaap...
Exploration. G	2 1/2	2 1/2	2 1/2	1 0	1/ 14 June '96	1 0 0	148,000	Transvaal, De Kaap...
Exploring L & M. G	3 1/2	3 1/2	7 1/2	1 0	2/ Dec. 16 '95	1 0 0	116,215	Transvaal, De Kaap...
Ferreira. G	18 18	18 18	18 18	1 0	25/ Aug. 28 '96	1 0 0	45,000	Transvaal, De Kaap...
French Rand. G	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	480,000	Transvaal, De Kaap...
Geldenius Deep G	4 1/2	4 1/2	3 1/2	1 0	—	1 0 0	265,000	Transvaal, De Kaap...
“ Estate. G	3 1/2	3 1/2	2 1/2	1 0	2/ Oct. 29 '96	1 0 0	187,500	Transvaal, De Kaap...
“ Main Reef. G	5 1/2	5 1/2	3 1/2	1 0	2/ Feb. 13 '96	1 0 0	150,000	Transvaal, De Kaap...
George Goch. G	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	100,000	Transvaal, De Kaap...
Ginsberg New. G	1 1/2	1 1/2	1 1/2	1 0	rts Sep. 30 '96	1 0 0	130,000	Transvaal, De Kaap...
Glencairn. G	2 1/2	2 1/2	1 1/2	1 0	—	1 0 0	200,000	Transvaal, De Kaap...
Golden Dove. G	7 1/2	7 1/2	1 1/2	1 0	rts Sep. 30 '96	1 0 0	60,000	Transvaal, De Kaap...
Gld. Fls. Deep. G	7 1/2	7 1/2	6 1/2	1 0	—	1 0 0	600,000	Transvaal, De Kaap...
“ of Lydenburg. G	7 1/2	7 1/2	2 1/2	1 0	—	1 0 0	200,000	Transvaal, De Kaap...
“ of Mashon. G	7 1/2	7 1/2	3 1/2	1 0	—	1 0 0	200,000	Transvaal, De Kaap...
“ Tlra d’Env. G	14/ 14	14/ 14	14/ 14	—	—	1 0 0	—	Transvaal, De Kaap...
Graspop. G	2/ 9	2/ 9	2/ 9	5/-	24 1/2 Mar. '96	0 5 0	400,000	Transvaal, De Kaap...
Gt. astr. Colliery. G	2/ 1	2/ 1	2/ 1	1 0	—	1 0 0	376,866	Transvaal, De Kaap...
Griqualand W. D	7/ 8	7/ 8	7/ 8	10 0	4/ July 15, '96	10 0	105,700	Transvaal, De Kaap...
Heidelberg. Est. Ex.	4 1/2	4 1/2	3 1/2	1 0	—	1 0 0	—	Transvaal, De Kaap...
Henderson's Trans. G	1 1/2	1 1/2	1 1/2	1 0	—	1 0 0	250,000	Transvaal, De Kaap...
Henty Nourse. G	6 1/2	6 1/2	5 1/2	1 0	—	1 0 0	100,000	Transvaal, De Kaap...
Jb'g Con. Invst. (N) Pioneer	2 1/2	2 1/2	2 1/2	1 0	2/ Sep. 30 '96	1 0 0	650,000	Transvaal, De Kaap...
Jubilee. G	6 1/2	6 1/2	6 1/2	1 0	4/ Oct. 29 '96	1 0 0	30,000	Transvaal, De Kaap...
Jumpers. G	3 1/2	3 1/2	3 1/2	4 0	6/ Mar. 27 '96	1 0 0	100,000	Transvaal, De Kaap...
“ Deep. G	4 1/2	4 1/2	5 1/2	1 0	—	1 0 0	300,000	Transvaal, De Kaap...
Kimberley. D								

"THE MINING JOURNAL" SHARE LIST—(Continued).

AUSTRALIAN AND NEW ZEALAND MINES.

Name	Closing Price, Dec. 11, 1896	Closing Price, Dec. 4, 1896	Am't. of Share	When last XD and Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office
Aladdin's Lamp G	13 2	2 2 1/2	1 0	2/ Sept. 20 '96	1 0 0	100,000	U.Kn N.S.W.	4-6, Throg. Avenue, Worcester House, 3, Princes Street.
Anglo-Ont. Corp	34 1	34 1	1 0	100 2/ '95	1 0 0	125,000	W. Austral.	
French Exp	14 1/2	14 1/2	1 0	3/ Sept. 21 '96	1 0 0	40,000		
Ger. Explor.	14 1/2	14 1/2	1 0	5/ Oct. 20 '96	1 0 0	4,000		
Am. G.	36 34	36 34	1 0	—	1 0 0	100,000	N. Zealand	10, S. Swithin's Lane
Arrow Brownhill G	36 34	36 34	1 0	—	1 0 0	9,000	Cool., W.A.	4, St. Winchester St.
Arrow Gold Mines	15 1/2 1/2	15 1/2 1/2	1 0	10/ June 25 '96	1 0 0	375,166		1, Queen Victoria-st.
Australian G	4 5/	3 5/	3 5/ 6	1 0	—	1,000	Gym., Qld	6, Queen-st. place
Australian	—	—	—	10/ July 30 '96	7 7 6	218,315	S. Austral.	42, New Broad-street
Australian	—	—	—	1/ June '91	0 19 3	574,799	Bar.R.NSW	Winchester House.
As. Bro. Hill Con.	16 1/	16 1/	1 0	1/ June '91	—	—		
Baker's Creek G	56 7/	56 7/	1 0	1/ May '95	17 18	50,000	H'g've N.S.W.	Hillgrove, N.S. Wales.
Bamboo Queen & R	34 1	34 1	1 0	—	1 0 0	120,000	Pib., W.A.	38, Coleman Street.
Bailey's New G	3/ 4	1/ 2	1 0	—	1 0 0	480,000	Coolgardie	Feby. H. B'm'l'd St.
Big Blue G	6/ 7/	6/ 7/	1 0	—	1 0 0	150,000		15, Gason Street.
Black Flag Coalid.	34 3/	34 3/	1 0	—	1 0 0	140,000	Coolgardie	1, Metal Hatch.
Propri.	34 3/	34 3/	1 0	—	1 0 0	600,000		2, Bishopsgate St. Wn
Hopetown Freefield	2/ 3 2/ 9	2/ 3 2/ 9	1 0	—	1 0 0	500,000	Coolgardie	3, Princes Street.
Blue Spear and G.G.	10/ 11/	10/ 11/ nom	1 0	3/ Aug. 13 '96	1 0 0	82,294	Otago, N.Z.	4-6, S. Swithin's Lane
Brilliant G	6/ 7/	6/ 7/	1 0	—	1 0 0	120,000	C. T.Q.lauu	6, Queen Victoria-st.
Brook G.	15 10 15	15 10 15	1 0	—	1 0 0	70,000		16, St. Helen's Place
Brook, Hill S	15 1/2 15	15 1/2 15	1 0	—	1 0 0	240,000	N.S. Wales.	16, S. Helen's Place
Brand Arrow G	1/ 2/	1/ 2/	1 0	—	1 0 0	400,000	N.S. Wales.	16, S. Helen's Place
Brennan's P.	24 2/ 25	24 2/ 25	8/	1/ Oct. 29 '96	0 8 0	960,000	N.S. Wales.	3, St. Winchester st.
Brennan's P.	56 24	56 24	1 0	—	1 0 0	6,500	Hannan's	4, St. Winchester st.
Brennan's Birdal's	15 1/2 15	15 1/2 15	1 0	—	1 0 0	150,000	Coolgardie	Copthall House.
Quality Hill G	7/ 7/	56 34	1 0	—	1 0 0	115,000		9-10, King Street.
Quality Founder G	56 24	56 24	1 0	—	1 0 0	56,532	E'g'rel, W.A.	Wor'st'r Ho., Walbr'k
Quality Founder & Inv.	56 24	56 24	1 0	4/3d Mar 12 '96	1 0 0	200,000	W. Austral.	1, Met. Exch. Bldgs
Ex. & Inv. of W.A.	56 24	56 24	1 0	1/3d Mar 27 '96	1 0 0	122,000		
Chesire Dow. G	1/ 1/ 6	1/ 1/ 6	1 0	—	1 0 0	250,000	Queensland	110, Cannon Street
Colonial Finance G	15 1/2 15	15 1/2 15	1 0	1/15 Mar 12 '96	1 0 0	10,000	W. Austral.	139, " "
Gold Fields G	34 1/2	34 1/2	1 0	10/ Mar. 27 '96	1 0 0	246,779		70, Cornhill.
Gov. of W.A. W.A.	56 24	56 24	1 0	—	1 0 0	225,773	Pilbara	30, Moorgate Street.
Murchison G	24 1/2	24 1/2	1 0	—	1 0 0	104,451	Murc., W.A.	Broad Street House.
Coll. Gold & Co.	56 1/2	56 1/2	1 0	—	1 0 0	400,000	Cool., W.A.	30, S. Swithin's In.
Mint & L.M.G.	15 1/2 15	15 1/2 15	1 0	—	1 0 0	150,000		3, Princes Street.
Census Co. United	56 24	56 24	1 0	—	1 0 0	115,000	Hannan's	10, Cannon Street.
Crown United	56 24	56 24	1 0	—	1 0 0	75,000		110, Cannon-st., E.C.
Payn's B.W.G.	12/ 13/	12/ 13/	1 0	-/f Sept. 16 '96	1 0 0	488,400		16, S. Helen's Place
P. G. C.	2/ 3/	2/ 3/	1 0	-/8 Apr. '92	1 0 0	490,000		Winchester Ho., E.C.
Bapt's Nest	15 1/2 15	15 1/2 15	1 0	—	1 0 0	2,500	Mt. Margin	Finsbury House.
East Hauraki	1/ 2/	1/ 2/	1 0	—	1 0 0	400,000		Copthall House
Registers Synd.	56 1/2 56 1/2	56 1/2 56 1/2	1 0	2/8 April 29 '96	1 0 0	9,000		
Hull's Min. Estd.	56 24	56 24	1 0	1/4 Jan. 15 '96	1 0 0	150,000		
Hull's Min. Estd.	56 24	56 24	1 0	—	1 0 0	60,000		
Glazier Cons.	15 1/2	15 1/2	1 0	—	1 0 0	300,000	N.S. Wales	4, Queen-street-place
Glazier	56 24	56 24	1 0	—	1 0 0	450,000	W. Austral.	43, Threadneedle st.
Golden Cement G	56 1/2	56 1/2	1 0	—	1 0 0	175,000	N.Z. Zealand	5-5, Queen-street-place.
Gate G.	15 1/2 15	15 1/2 15	1 0	—	1 0 0	100,000		34-36, Gresham-st.
Gatehouse G.	56 1/2	56 1/2	1 0	—	1 0 0	150,000		9-10, King Street, E.C.
Horizon Sh.	15 1/2 15	15 1/2 15	1 0	—	1 0 0	120,000		4, Bishopsgate St. Wn
Link G.	56 1/2	56 1/2	1 0	5/ Oct. 26 '95	1 0 0	90,000		20, Cannon Street.
Plum G.	56 1/2	56 1/2	1 0	—	1 0 0	120,000		20, Cannon Street.
Gold Estates G	15 1/2 15	15 1/2 15	1 0	3/ June 12 '96	1 0 0	60,000		20, Cannon Street.
Great Boulder G	6/ 6/ 6/	6/ 6/ 6/	1 0	5/ Nov. 12 '96	1 0 0	240,000		20, Cannon Street.
Junction G.	15 1/2 15	15 1/2 15	1 0	—	1 0 0	150,000		20, Cannon Street.
Mr. B's R.	15 1/2 15	15 1/2 15	1 0	—	1 0 0	150,000		20, Cannon Street.
Finall R.	56 24	56 24	1 0	5/ Jan. 15 '96	1 0 0	175,000	Kurnalp, W.A.	10, Cannon Street.
Graham Synd. G	56 1/2	56 1/2	1 0	4/8 Jun. 12 '96	1 0 0	50,000		11-12, Broad-st., E.C.
Reid	56 24	56 24	1 0	—	1 0 0	70,000		11-12, Broad-st., E.C.
Albion	56 24	56 24	1 0	—	1 0 0	—		
Albion Gold Fids	56 24	56 24	1 0	—	1 0 0	—		
Goldhill	2/ 3/ 5/	1/ 1/ 6	1 0	—	1 0 0	—		
Plains G.	2/ 3/ 2/ 3/	2/ 3/ 2/ 3/	1 0	rits May 14 '96	1 0 0	300,000	Cool., W.A.	
Plains'ks	3/ 4/	5/ 6/ 8/	1 0	—	1 0 0	180,000		
Hannan's Brownhill	4/ 5/ 11/ 14	3/ 4/ 5/ 11/	1 0	—	1 0 0	65,000		
Devonport	1/ 1/ 3	1/ 1/ 3	1 0	—	1 0 0	147,000		
Main Refl.	4/ 6/ 5/ 6/	4/ 6/ 5/ 6/	1 0	—	1 0 0	51,107	Kalg., W.A.	
North	5/ 6/ 7/ 8/	5/ 6/ 7/ 8/	1 0	—	1 0 0	—		
100 Acres	5/ 6/ 7/ 8/	5/ 6/ 7/ 8/	1 0	—	1 0 0	—		
Oreys	5/ 6/ 7/ 8/	5/ 6/ 7/ 8/	1 0	—	1 0 0	—		
Prop.	5/ 6/ 7/ 8/	5/ 6/ 7/ 8/	1 0	—	1 0 0	—		
Reward	5/ 6/ 7/ 8/	5/ 6/ 7/ 8/	1 0	—	1 0 0	70,000	Hann. W.A.	
Star	5/ 6/ 7/ 8/	5/ 6/ 7/ 8/	1 0	—	1 0 0	—		
Hauraki G.	17/ 17/ 17/ 17/	17/ 17/ 17/ 17/	2/8	1/ Sept. 20 '96	0 2 8	320,000	Eilgarn	1, Queen Victoria-st.
Robert Gold G.	56 1/	56 1/	1 0	—	1 0 0	85,000		1, Queen Victoria-st.
All or Miss G.	56 1/	56 1/	1 0	—	1 0 0	120,000		1, Queen Victoria-st.
Idaho G.S.	56 4/	56 4/	5/	-/6 Jan. 16 '96	0 4 5	143,433		1, Queen Victoria-st.
Idaho G.	1/ 3/ 1/ 6	1/ 3/ 1/ 6	1 0	—	1 0 0	249,250		1, Queen Victoria-st.
Idaho G.	10/ 10/ 10/ 10	10/ 10/ 10/ 10	1 0	rits May 24 '96	1 0 0	24,000		1, Queen Victoria-st.
Idaho G.	3/ 3/ 3/ 3/	3/ 3/ 3/ 3/	1 0	—	1 0 0	60,000		1, Queen Victoria-st.
Idaho G.	3/ 3/ 3/ 3/	3/ 3/ 3/ 3/	1 0	—	1 0 0	300,000		1, Queen Victoria-st.
Idaho G.	12/ 12/ 12/ 12/	12/ 12/ 12/ 12/	1 0	—	1 0 0	400,000		1, Queen Victoria-st.
Idaho G.	56 1/2 56 1/2	56 1/2 56 1/2	1 0	—	1 0 0	150,000		1, Queen Victoria-st.
Idaho G.	12/ 12/ 12/ 12/	12/ 12/						

THE NORTHERN TERRITORY.

By Captain C. C. LONGRIDGE, M.F.I.M.E., M.I.M.E., &c.

GENERAL DESCRIPTION.

THE announcement of the Northern Territory Mining Scheme recalls to mind a gold field unpleasantly familiar in the early seventies. The exact position of these fields now, perhaps, requires some localising for most readers.

The Northern Territory itself comprises the country lying northward of the 26th parallel of south latitude, the line of demarcation from South Australia, and between the 120°, the boundary with West Australia, and the 133° of east longitude, the division from Queensland; together with the bays and gulfs, and all adjacent islands. This territory, estimated at 523,620 square miles, or 335,116,800 acres, was annexed to South Australia in 1863. It is watered by fine rivers—the McArthur, Roper, Walker, Goyden, Blyth, Liverpool, the three Alligator Rivers, the Adelaide, Victoria, and the Daly. Some of these are navigable to considerable distances by ships of burden, and all by smaller boats. Much of the country between the river valleys is very rugged, and so cut up by ravines bounded by rocky walls as to be almost impassable. The chief town is Palmerston, situated on the eastern shores of Port Darwin, and now united by 160 miles of rail with Pine Creek and its mining camps, dotted over the auriferous ground that stretches away in a south-easterly direction.

Season and Climate.

In the northern portion of the territory the year is regularly divided into two climatic periods, the dry season lasting from May to the end of October, and the wet season extending from the end of October to the end of April, with an average rainfall of 62 inches. During the rainy months gullies and streams are often converted into impassable torrents, and the low ground with quagmires, over which travelling is arduous and transport impossible. Some difference of opinion exists as to the suitability of the climate for Europeans. It is, however, admitted that they cannot here do the same amount of constant work as in a more temperate climate, and that care is required to avoid intermittent fever, towards which miners in damp workings are easily predisposed.

Physical, Geological, & Mineralogical Characteristics of the auriferous districts are here briefly noticed. The most important of the gold reef localities now being worked—if the word can be legitimately applied—are Pine Creek, Brock's Creek, Howley, Woolwonga, Fountain Head, Jam Creek, Union, Eureka, and Maude's Creek—all lying, within 100 to 230 miles of Palmerston. This latter town is about 70 feet above low water, the country gradually rising to about 650 feet at Pine Creek, the commencement of the auriferous area, so far known. For the first 100 miles from Palmerston the mean ascent is 3 feet to the mile, for the next 50 it is over 6 feet to the mile. This is owing to the opening up of the ranges that are connected with most of the mineral deposits. These ranges are a series of parallel ridges, having a south-south-easterly trend, and rising to heights of from 200 to 300 feet.

Abstracting from the minor details of loam, clay, grit, red sandstone, crystalline limestone, &c., that overlie the bad rock, the whole geology of the Northern Territory is of a comparatively simple kind, and the formations are few in number. The most conspicuous, as well as the most common, is mica slate, of which the stratification is much jointed, fractured, and contorted. The rock in places is highly ferruginous, and at times contains much magnesia, with occasionally chlorite and mica; the latter as muscovite is very common near mineral lodes, and might almost be termed an indicator. The whole of the formation is paleozoic, and probably of the same age as the auriferous slates and schists of Victoria, New South Wales, &c., there commonly known as Lower Silurian. In every part of these metalliferous deposits are dykes mostly of diorite. In addition, the country is interlaced with an abundance of dykes and veins of a greyish-blue flaky rock of volcanic character and extraordinary hardness, resembling phonolite akin to the trachytes proper. The dykes are narrow and of great length, extending sometimes for miles. While the diorite dykes appear to have some connection with the gold, for they are often accompanied by singularly rich shoots of gold; those of the so-called phonolite seem of more modern origin, and in no way connected with the genesis of the precious metal. The quartz reefs generally, though not always, run along the summit of the ranges, of which they are, in fact, the nucleus. The gold reefs, for the most part, are of the usual character. There is, however, a great diversity in their dimensions. Some are several feet wide, while others are merely narrow leaders; but the latter are usually more defined, and, in proportion to their size, richer. As regards their continuity, the experience of 1870-72 points to the conclusion that while auriferous stone is found on the very surface of the ground the richness of the reef and leader decreases with the depth. In dimensions and richness the lodes are undoubtedly patchy. As regards the average value of the gold ore in this district, the official South Australian Red Book of 1894 states:—"No strict official record of the crushings from various districts has been kept, but it is estimated by the best authorities that the average yield of many thousands of tons taken from large reefs has been 9 dwts. to 18 dwts. to the ton, and the average yield from smaller reefs, varying from 1 foot to 3 feet, has been from 1½ ounce to 2 ounces per ton." Throwing in the chances of striking smaller reefs and leaders of phenomenal richness, the writer is inclined to average the value of the ore at not over 16 to 17 dwts. per ton, by far the greater proportion of which, at the low levels, which must now be worked, will be highly refractory and little amenable to either battery amalgamation or cyaniding. This refractory character—probably heavy iron and copper pyrites—of the deeper ore is fairly well indicated, not only by actual ascertained results, but also by the presence of other mineral lodes of silver, lead, copper, tin, iron, &c. All around this mining area is a belt of granite. Naturally the greatest mineral richness may be expected to occur at the edge or junction of the slates with the eruptive granite. It would rather seem as if silver, lead, and copper were the metals developed on the edge of this junction, while gold existed throughout the slate. Following the common rule, it is probable that the reefs on entering the granite become barren, but may resume their mineral character on returning to the country in which they conceived their origin. The presence of base metals in the immediate vicinity is an *a priori* argument for the refractory character of the gold ore below the oxidised surface.

Apart from the reefs there are innumerable alluvials which have been tried in a small way, but, owing to the patchy nature of the ground, with only varying success. There is some diversity of opinion as to the value of these alluvials, but the probability seems adverse to their profitable character. Fluvio-tectonic conglomerates or drifts derived from the quartz lodes are fairly abundant. But their auriferous value is extremely doubtful. They have, says F. Tenison Woods, in his lifetime Govern-

ment Geologist, an ugly resemblance to what is termed the barren, miocene alluvial drifts of Victoria, in which gold is never found.

The Mines

Are represented by such groups as the Howley, Brock's Creek, Woolwonga, Eureka, Yam Creek, Mandi's Creek, &c. These mines have been described as "developed." But, for all mining purposes, the best developed is the least to be desired. For what is the history of these properties, and what the nature of their development? In 1870-72, in the hands of Europeans, these mines failed to pay expenses, and were subsequently mostly let out to the Chinese on tribute. Now, anyone that is the least familiar with Chinese mining, knows that it means the deterioration of the property for future work. Down to the water level, he rarely goes deeper, but above it, the Celestial sinks and burrows, fossicking and crevicing the ground in search of rich ore, until the whole surface is like a rabbit warren, and any attempt to open systematic workings is prohibited by questions of cost and danger. There is but one way to deal with such a property, and it is what will have to be done in the present instance—namely, to sink shafts below the Chinese workings and try deeper levels. This practically means attacking fresh ground, of the auriferous value of which little or nothing is known. In 1886, F. Tenison Woods was asked whether deep sinking would be likely to yield increased profit, and replied—"I should say there is nothing peculiar in the ground which would lead one to expect it."

Returning for one moment to history, we find that so far the upper level mining by Europeans has been a failure. For this *fiasco* of the past there were ample reasons in the great natural difficulties then existing. But, barring improved transport by the opening of the railway, these difficulties still exist. In fact, in one item, that of labour, the problem, owing to the practical prohibition of Chinese immigration, is more serious than ever. It is no exaggeration to say that when wet work begins, for which, even if it could be obtained, Chinese labour is unsuited, the importation of the necessary white labour in the measure required will enormously add to the costs of mining. Nor must it be forgotten that in a district of five months' tropical rain, work below the water level will entail pumping operations—aid drainage is not possible—that is unpleasant to contemplate. Another heavy item will be the iron and steel work required in lieu of the use of timber, which the white ant and the borer will greedily consume. These it is true cannot attack the metal, but this in its turn must rapidly deteriorate under the corrosion of the acid mine water known to exist. Fuel also, whether it be wood, coal, or oil, will form no small charge.

Though the main mining operations must be underground, below the water level, it may be thought that treatment of the vast quantities of tailings overhead will form a secondary but lucrative business. Should it prove so, it will be an unexpected though agreeable surprise. The Chinese miner who picks his ore with a view to easy extraction does not, as a rule, leave rich tailings, and the writer does not believe that more than one-tenth of the tailing deposits said to exist will be worth touching, and that such as are sufficiently rich will be exceedingly refractory.

The assets represented by existing plant has probably not much more than the value of old iron.

Conclusions.

First, to dispose of the argument that the Northern Territory Mines, having been exploited at a profit by the Chinese, must *a fortiori* prove profitable to a European company. The fact is, in such cases that the Chinese, as other natives, do not mine, but by carefully ransacking the ground for high grade ore and leaving the rest they can for a time make money, where systematic mining on a large scale could be conducted only at a loss. Chili, Bolivia, Mexico, &c., furnish innumerable examples in point, at times accompanied with disastrous results to European capitalists.

Secondly, considering the nature of the work in view, the cost of labour, heavy pumping through a large portion of the year, the necessity of substituting iron for timber, the price of fuel, and the probable highly refractory nature of the mineral, it is likely that some time to come the costs of mining, mine development, milling and treatment, management, depreciation, interest and amortisation will not be less than 40s. per ton of raw ore. Taking 16 dwts. fine gold as the mean value of the ore, and allowing 80 per cent. extraction, the result is about 40s. recovered for every 40s. expended. Under these conditions no company should start without a working capital of at least £40,000 to £50,000, and even with that guaranteed, the investment does not look very tempting. On the other hand, there is always the chance of discovering a new Eldorado.

BRITISH GUIANA'S GOLD INDUSTRY.

The R.M.S. *Eden*, which left Georgetown on the 11th ult., took gold to the value of \$102,511.65. The shippers were:

	Ozs. dwts. grs.
Colonial Bank ...	2430 11 0
British Guiana Bank ...	3231 15 0
Sproston, D. F. and Co. ...	108 0 12

Total ... 5770 2 12

The following are the returns of gold entered at the Department of Mines for the weeks ending:

	November 2.	November 14.
	Ozs. dwts. grs.	Ozs. dwts. grs.
Barama ...	19 4 15	89 9 14
Barima ...	620 2 0	698 4 15
Cuyani ...	243 4 0	519 7 13
Demerara ...		
Essequibo ...	512 14 5	523 14 14
Groote Creek ...	57 13 15	24 17 16
Mazaruni ...		18 14 18
Potaro ...	622 13 14	1335 2 9
Paruni ...	350 6 21	62 18 21
Total ...	2425 18 23	3502 10 0

Export of gold from January 1 to November 23:—

	Ozs. dwts. grs.	at \$1,857.228.82
1896	104,479 7 18	
1895	104,210 4 12	at \$1,848,379.90

The MYSORE REEFS (KANGUNDY) COMPANY (LIMITED) have sold the gold produced in October for £738 17s. 1d.

The NAMAQUA COPPER COMPANY (LIMITED) have decided to declare, at their meeting to be held on the 17th inst., an interim dividend of 1s. 6d. per share, free of income-tax, on account of the current year.

The directors of the NAMAQUA COPPER COMPANY (LIMITED) have decided to declare, at the meeting to be held on the 17th instant, an interim dividend of 1s. 6d. per share, free of income-tax, payable 24th instant.

The COROMANDEL GOLD MINING COMPANY OF INDIA (LIMITED) have sold the gold produced in October for £3033 0s. 8d.

"EL CALLAO" COMPANY.

THE report of the board of directors is as follows:—To the general meeting, held April 16, 1896—In our report to the extraordinary general meeting which took place on December 14, 1895, we stated to you, in detail, the situation in which the company then was. Now we give you an account of the operations effected during last year, which proves the correctness of the unfortunate situation we then indicated to you. The result of the three mines we are working has been, in the year 1895, as follows:—

Mines.	Tons	Ounces	Net Pro-
	Crushed.	Produced.	Expenses in
	c.eds.	(bolivars.)	El Callao.
El Callao (Remington) ...	10,937	5,300,19	469,285 15
Colombia ...	36,519	15,335,93	1,388,500 58
Nueva Panama ...	9,829	3,864,95	356,717 88
	57,283	24,501,07	2,214,503 61
Differences of expenses ...			2,506,455 15
The expenses are those caused at the mines, but there are others, the account whereof is kept in the office, which are those of administration, taxes, purchase of material, freightage, &c., which are not less than difference between the proceeds			291,951 54
			350,000
and the expenses ...			641,951 54
The difference has come out of the reserve we had on January 1, 1895, in money and articles warehoused.			
The whole of this difference is not a loss, for therein appears:			
Debt of the Nueva Panama Company ...			337,665
Invested in railways ...			101,781
Total ...			429,447

The details of all the expenses you will find in the report of the superintendent of the works, and in the statements we annex. During the year 1895, seeing that all the reserve fund was exhausted, and the mines did not improve, we have done all possible to obtain a loan, with the object of giving a greater development to the works, but without favourable results. Our confidence in the successful issue which would follow this loan was founded, and is still founded, upon this calculation:—

In 1895, 57,285 tons of ore have been treated which have produced ... 2,214,503 61

There has been expended ... 2,506,455 15

Difference, which we take as loss... 641,951 54

We have abundance of ore, approximately of the same type as that crushed in 1895.

Our purpose was to increase the works to the extent of doubling the amount of ore treated, after giving a certain development to the mining workings; and on the machinery being completed, this can be done, increasing the expenses by 50 per cent. The result would be this:—

Quartz: 114,570 tons; product ... 4,429,007 22

Expenses: all those incurred in 1895, increased by 50 per cent. ... 4,294,687 22

Result ... 144,390

This result would be insignificant compared with the magnitude of the undertaking, but applied to the million of bolivars asked for, it is sufficient. As regards the undertaking in general, it is equipped, and costs many millions, which are in peril of being lost if the works are stopped. The million which is asked for is to maintain the works in activity, and to extend them, with the hope that it will be able to repay the million and its interest, and so save the undertaking; and if this should not succeed, the borrower would remain with it, and we believe that they would not ultimately lose. But if we base our calculation on the product of 24,501 ounces during the year 1895, as well as the million of bolivars, we should extend the works, at least as regards four mines—the Remington, Nueva Panama, Colombia, and San Felipe. Our hope would be to meet with better ore in some of them—a hope which we believe to be well founded. But in order that the undertaking should not die out, there must be taken into account the great extension of mineral lands which it possesses, the works already carried out, and the material which it has erected for the working.

We have against it the expenses, which are very heavy, and it is difficult to reduce them.

We have suspended the payment of the remuneration of the board of directors, and to one-half that of the other employés of the office; but in spite of all these reductions the undertaking could not exist with a production of more than 2000 ounces of gold per month, the average of the year 1895, but the conditions of the country thus require it in the present circumstances, although there are reasons to believe that they will improve.

During the three months already past of the present year the result of the works has been in the three mines which we are working:—

Product. Expenses.

12,497 tons ... 5230 35 ounces ... 462,030 ... 589,957

We have a deficit of 127,927

The situation is very trying. If we stop the works, our belief is that the undertaking is lost, as regards the shares of El Callao, and if we continue them without quickly meeting with better ore we shall go on to bankruptcy and judicial liquidation; and in any case it is a loss for the shareholders of the El Callao. Not being able to count upon a loan, risking the continuation of the works on the chance of discovering better ore is the only hope of salvation which remains to us. Upon this the board of directors desires a resolution of the general meeting. The plain and frank exposition of the situation which we make permits the meeting to pass a resolution with a knowledge of the matter. The deficit which the months of February and March have left us is now almost in its entirety to the employés and workmen, who have been in the service of the company for many years.

It is possible that if we continue paying the two-third parts of the expenses in cash, the employés and workmen will remain with us two or three months longer, for they know the plan of the works which we are following, and they have confidence in it. If we were able to inspire a part of the confidence which they have to the influential shareholders, or to the capitalists who risk money in gold mining undertakings in hope of big gains, we should have obtained the loan for which we are now asking many years ago; for it may be asserted that in the gold mining world there is no undertaking which offers the guarantees ours offer, nor which has in sight the elements ours has for showing the

One half of the under-mentioned Issue is reserved for preferential subscription, at the present issue price, by the Shareholders in the companies constituting the Northern Territories Syndicate, Limited, viz.:-

West Australian Gold Fields, Limited; The West Australian Joint Stock Trust and Finance Corporation, Limited; The London and Continental Investment Corporation of Western Australia, Limited; The West Australian Share Corporation, Limited; The Gold Lands Corporation, Limited; The Colonial Gold Fields, Limited; The Universal Corporation, Limited; The West Australian Loan and General Finance Corporation, Limited; The Anglo-American Exploration Company of Western Australia, Limited; The Anglo-Belgian Exploration Company of Western Australia, Limited; and The Anglo-Austrian Exploration Company of Western Australia, Limited. The West Australian Joint Stock Trust and Finance Corporation, Limited; The New Zealand Joint Stock and General Corporation, Limited; and The West Australian Loan and General Finance Corporation, Limited, having, in conjunction with others, by purchase and otherwise, acquired the right to issue the undermentioned Shares, now offer the same for sale by public subscription.

THE NORTHERN TERRITORIES GOLD FIELDS OF AUSTRALIA, LIMITED.

CAPITAL

Consisting of 300,000 Shares of £1 each, of which 225,000 Shares have been issued as fully paid, as the Purchase Price of the Properties acquired, and 75,000 have been subscribed to provide Working Capital. The latter are at present only partly paid up, but in order to prevent any confusion arising, the Directors have agreed to accept payment in full, so that all Shares will then be of one description.

Applications are now invited for 295,000 fully paid Shares at £3 per Share, payable 5s. per Share upon Application, 15s. on the 18th December, 1896, £1 on the 15th January, 1897, and £1 on the 15th March, 1897.

Applicants may pay up in full at any time in advance of the above dates.

DIRECTORS.

ROBERT SMITH (Director African Gold Recovery Company, Limited), Chairman.
CHARLES CRAUFURD, Bart. (Director, West Australian Gold Fields, Limited).
ROBERT B. TETLEY (Director, Associated Gold Mines of Western Australia, Limited).
HENRY W. LOWE (Director of the London and Continental Investment Corporation of Western Australia, Limited).
HENRY G. SLADE, F.R.G.S.
EDWARD HEASMAN (Director, Block 50, Hampton Plains Estate, Limited), Managing Director.

BANKERS.
PARR'S BANK, LIMITED, Bartholomew Lane, London, E.C., and Branches.
SOLICITORS.
DAVIDSON and MORRIS, 40 and 41, Queen Victoria Street, London, E.C.
AUDITORS.
MONKHOUSE, STONEHAM, and CO., 28 and 29, St. Swithin's Lane, London, E.C.
OFFICES AND SECRETARY.
D. R. TASMAN, 5, Laurence Pountney Hill, London, E.C.

ABRIDGED PROSPECTUS.

MACHINERY AND MANAGEMENT.

This Company was incorporated in July, 1895, for the purpose of taking over from the Northern Territories Syndicate, Limited, six extensive groups of developed and working gold mines situated in the Northern Territory of South Australia, together with a large quantity of plant and machinery, and upwards of 20,000 tons of tailings.

THE NORTHERN TERRITORY.

The Northern Territory is the name given to the northern portion of South Australia, and comprises 531,402 square miles, or 340,097,280 acres. The Territory is administered under Letters Patent from the Imperial Government by South Australia, and immediately adjoins the Colony of Western Australia. Palmerston is the principal town, whilst there is a magnificent harbour at Port Darwin. There is a railway from Palmerston to Pine Creek, a distance of 150 miles, which cuts right through the gold-bearing district, and is within a short distance of this Company's properties. The goldfield may be said to begin at 10 to 70 miles from Palmerston, and to extend, as far as is at present known, some 200 miles south, its breadth being 50 or 60 miles, so that it covers an area from 10,000 to 12,000 square miles. Water and timber are abundant. The climate is tropical, but epidemics of a serious nature are practically absent.

THE NORTHERN TERRITORIES SYNDICATE.

The Northern Territories Syndicate, Limited, was constituted by a combination of the following Companies:-

West Australian Gold Fields, Limited.

The West Australian Joint Stock Trust and Finance Corporation, Limited.

The London and Continental Investment Corporation of Western Australia, Limited.

The West Australian Share Corporation, Limited.

The Gold Lands Corporation, Limited.

The Colonial Gold Fields, Limited.

The Universal Corporation, Limited.

The West Australian Loan and General Finance Corporation, Limited.

The Anglo-American Exploration Company of Western Australia, Limited.

The Anglo-Belgian Exploration Company of Western Australia, Limited.

The Anglo-Netherlands Exploration Company of Western Australia, Limited.

The Anglo-Scandinavian Exploration Company of Western Australia, Limited.

The Anglo-Austrian Exploration Company of Western Australia, Limited.

The combination was the result of extensive investigation into the mineral wealth of the Territory, which was reported by eminent authorities to be of an exceptional character. These reports having been confirmed by its own experts, the Syndicate took up the above-mentioned properties, and subsequently sold them over to this Company, not only taking the whole of its purchase price in Shares, but also providing £75,000 as Working Capital.

The Directors of this Company thereupon ordered a large quantity of new and improved machinery, which is now on its way to the Territory, and have also appointed Mr. W. J. E. De Müller (late Chief of the Royal Mining Department, Siam), an Engineer and General Manager; and Mr. D. D. Rosewarne (late Government Inspector of Mines for South Australia), Assistant Manager of the mineral properties thus acquired. Mr. De Müller has been in London for some time past in connection with the purchase of the new machinery for the Company, which has been specially designed by Mr. Jonathan Packman, M.I.C.E., and constructed under his personal supervision, whilst Mr. Rosewarne has returned to the Territory with a large staff of miners, and has commenced active operations at the mines. The whole of the groups are being fitted with complete telephonic system.

NAMES OF PROPERTIES.

The properties acquired comprise nearly seven hundred acres, and are locally known as the Howick Group, Brock's Creek, Woolwong, Eveleas (including the Europa Mine), Yam Creek, and Lady Alice Union District groups. They extend along a line of main reef for a distance of about ten miles, and have been worked in a spasmodic and unsatisfactory manner for some years past by Chinese labour, the following being some of the results of crushings prior to the formation of this Company, as vouches for by official records:-

PAST CRUSHINGS.

Group 1.—Government reports show the results of crushing of over 5,000 tons from this group. These crushings average 3 oz. per ton, whilst the following are the latest returns obtained from six crushings taken from the 150 ft. level.

Crushings.	Tons.	Ounces.
No. 1	72	378
No. 2	119	412
No. 3	83	167
No. 4	11	60
No. 5	44	165
No. 6	53	190

The last two returns have thus yielded over 5 ounces per ton. This reef is now 4 feet wide at face.

Group 2.—A crushing of 10 tons from the Alligator Mine (on this property) has given the phenomenal result of 3,000 ounces; whilst a large crushing of 8,000 tons realised 17,000 ounces of gold.

Group 3.—A crushing of 4,300 tons of surface ore only from this property has yielded 3,500 ounces.

Group 4.—A crushing of 1,200 tons from the main shaft of this property has yielded 3,300 ounces.

Group 5.—A crushing of 250 tons from this property has yielded 510 ounces. Group 6.—A crushing of 120 tons from this property has yielded 630 ounces of gold. Another crushing yielded 4½ ounces of gold per ton.

The above results are independent of gold left in the tailings, which have in some cases yielded assay results of a remarkable character.

SUBSIDIARY COMPANIES.—SEPARATE WORKING CAPITAL ALREADY GUARANTEED.

It is the intention of the Directors of this Company to further develop the properties, equip them with more modern and efficient plant and machinery, and generally to act upon the lines of a parent undertaking, with a view from time to time to forming subsidiary companies to take over the various groups. Two of such companies will be issued at an early date, a separate working capital of upwards of £13,000 for each having already been guaranteed by Western Australian Gold Fields, Limited, the West Australian Joint Stock Trust and Finance Corporation, Limited, the London and Continental Investment Corporation of Western Australia, Limited, the West Australian Gold Corporation, Limited, the Gold Lands Corporation, Limited, the Colonial Gold Fields, Limited, the Universal Corporation, Limited, the West Australian Loan and General Finance Corporation, Limited, the Anglo-American Exploration Company of Western Australia, Limited, the Anglo-Netherlands Exploration Company of Western Australia, Limited, the Anglo-Scandinavian Exploration Company of Western Australia, Limited, and the Anglo-Austrian Exploration Company of Western Australia, Limited, and the original Vendor.

GOVERNMENT SUBSIDY.

The Government of South Australia has promised a bonus of £10,000 to the first Company sinking an aggregate of 2500 feet in shafts of not less than 300 feet, and it will be the aim of this Company to obtain such grant at an early date. Mr. Rosewarne recently confirmed this in the following cable:-

"The Government will grant £10,000 to be paid as a bonus to sink, if the scheme is carried out, new timber throughout 2500 feet vertical."

As will be seen from the Report of the Hon. Chas. Dashwood, Resident Governor of the Northern Territory, this Company already has "numerous shafts sunk on the vein, varying in depth from 50 to 200 feet."

APPLICATIONS FOR SHARES.

Applications for the purchase of Shares (which will be conditional upon acceptance by the issuing Companies) may be made on the form accompanying the prospectus and forwarded to Parr's Bank (Limited), Bartholomew Lane, London, E.C., or any of its Branches, together with a remittance for the amount payable on application.

Full Prospectuses and Forms of Application may be obtained from the Bankers and Solicitors, and at the Offices of the above Companies, Finsbury House, Blomfield Street, London, E.C.

MINING IN CORNWALL AND DEVON: NOTES ON MINING IN THE WEST.

(FROM OUR OWN CORRESPONDENT.)

The East Pool and Wheal Agar affair is once more the subject of general discussion after one of those intermittent and somewhat prolonged lulls which have characterised the whole of the dispute. Matters had arrived at a point when the next move was obviously out of the hands of either side, though it was equally clear that Lord Robartes, having carried the thing so far as he had done, was compelled to continue his policy, and serve the necessary notices on his late leaseholders, Wheal Agar shareholders. He had under the lease the right of pre-emption, and he was entitled to make an offer for the machinery, or even to take it compulsorily at a valuation. We understand that his lordship has made an offer of £2500 for the machinery, and has served notices requiring, in default of the acceptance of these terms, the removal of the machinery from the mine within three months. The offer of £2500 must have come as an eye-opener to Mr. Hattersley, and it certainly is low compared with the offer which was practically made at one time of £6000, but we shall not be surprised to hear that even this has been declined, and the unfortunate shareholders may yet have to pay for carting their engine away as old iron. Wheal Agar executive must realise that they are on the horns of a dilemma. They, of course, need not sell to Lord Robartes, but if they do not they must remove what they have on the mine within three months. If they adopt the former course they are admitting that they have had the worst of a commercial transaction with the neighbouring mine—and there can, of course, be no question but that the £2500 is really East Pool's offer—and if they adopt the latter they must begin to dismantle at once. The cost of removing such machinery would be considerable. They have got themselves into a mess, apparently, unless, of course, there are some legal points of which we have yet heard nothing. It looks very much as though the Agar sett will very soon be in the hands of East Pool, but the important consideration now is as to what can be done with it when they have it. There will have to be some financial arrangements in order to put the thing in working trim, and we fancy these are already being talked over by the committee. It is an open secret that a good number of shareholders in East Pool do not want to, and will not, put their hands very deeply into their pockets to provide capital; but our opinion very strongly is that if they do not care to do so, there are many outside who would willingly invest in a big scheme under Limited Liability. The scheme undoubtedly should include the mines of East Pool, Wheal Agar, South Crofty, and New Cook's Kitchen, and they would form one of the best speculations in the County of Cornwall.

Carn Braia and Tincroft directors have not yet met to consider the advisability of suspending stoping operations, as advised by Mr. Foster Brown and Captain Teague. It is understood that a meeting will be held, when Mr. Frank Harvey, the Chairman, returns from Africa next week. The wisdom of the stop is gravely questioned in many quarters. A number of the men have been discharged from the mines during the last week, and the present outlook is anything but cheerful.

At the Bassett Mines the prospects are more hopeful than in most of the neighbouring concerns. The bottom is opening up well, and with a slight rise in tin the payment of handsome dividends at an early date would be assured.

BLUE HILLS is hardly looking so well as it was a few months ago. It is hoped, however, that the 100 fathom level, which is being driven by nine men and three boys, will soon improve.

CORRESPONDENCE.

"We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published."

THE ZYMEAN PROCESS.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR.—I read a letter in your issue of December 5, signed Donald Clark, B.C.E., School of Mines, in which he comments upon the Zymean process, and states—"The fermentation theories put forward are utter nonsense."

You have been good enough to publish several letters of mine upon this subject, in which I have endeavoured to show that the process, if intelligently and correctly worked, will do what it claims to do—i.e., extract all the metals from an ore quickly and at small cost, the ore being a refractory one or otherwise.

I have myself arrived at this conclusion after having frequently seen it done by others, and having myself worked ores with perfect success.

From the wording of the last paragraph of Mr. Clark's letter I am led to infer that he has as yet never tried the Zymean process—i.e., not properly.

As to the fermentation theories, it may be called fermentation, chemical action, or what you please—"a rose by any other name will smell as sweet." All I can say is, that upon the addition of the sulphur chloride to the properly made solution of salt and water, the ore having been placed in it with sulphur, present either in the ore or added, a commotion, we will call it, shortly occurs. Water is decomposed into H and O, which form fresh combinations. The result is, free nascent chlorine is produced, hydrochloric acid gas given off, &c., and ultimately all the metals of the ore will be found in the solution as chlorides.

The principle in all cases is the same, though there may be some little variation required in its mode of application owing to differences in the composition of ores. I will just mention one case in illustration of this which I have heard of. An ore having a certain combination of sulphur, and that sulphur a large percentage, did not succumb kindly to the process. How was this met? Simply by adding more sulphur, when the metals came out at once. I am not explaining this: I am simply stating facts. The result is, I take it, the important factor.

I trust Mr. Clark will try again, but try properly, and he will not then be disappointed.

December 6. M. TWEEDIE, Major-General.

GOVERNMENT AID FOR THE MINING INDUSTRY OF CORNWALL.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR.—You kindly inserted my previous letters on this great subject in your valued Journal. I venture again to ask you to insert this.

I will then leave the matter with the working miners of Cornwall—to those out of employment, to those receiving relief from the distressed miners' fund, to the gentlemen forming that committee, to the excellent men who represent this county in Parliament, to all Cornish men, to the whole of the people of this kingdom who desire the well-being of our working miners, everywhere at home, and may combined efforts and influence induce our Government to take the same interest in the toilers in our mines at home as our colonies do for them abroad.

Unless the Government give substantial aid, metalliferous mining will vanish away, and the few thousands now employed will be added to the now great number of destitute miners too poor to leave the country, and too weak from want of proper food to do a day's work, too independent to fill the workhouse, and their broken down course taking them silently to the grave. Cornishmen to the rescue!—Yours obediently,

R. H. WILLIAMS.

LEAD AND BLEND MINING IN CARDIGANSHIRE.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR.—I have carefully perused the letter of "Miner" in your valuable Journal of the 28th ult., and I fully agree with his remarks in reference to the future prospects of lead and blend mining in Cardiganshire.

It is well known that the mines in this county can be inexpensively developed by water power, which is in abundance.

There are other very attractive properties, independent of those named in "Miner's" letter, which are deserving the attention of capitalists. Further information may be obtained, if required, from yours very truly,

H. W. FRANCIS.

Penybont, Bow-street, R.S.O., Cardiganshire, December 9.

PUBLICATIONS RECEIVED.

"Whitaker's Almanack, 1897." By John Whitaker, F.S.A. (London: 12, Warwick Lane, E.C.)

"The Civilisation of Our Day." A series of original essays on some of its more important phases at the close of the 19th century. By Expert Writers. Edited by James Samuelson. Illustrated with maps by Stanford, portraits in photopavure and woodcuts, &c. in text. 16s. net. (London: Sampson, Low, Marston, and Co., 88, Dunstan's House, E.C.)

"The Westralian Gold Fields." By Barton S. James, F.G.S. (London: 18, Billiter-street, E.C.)

"The Engineering Magazine."

"Journal of the Western Society of Engineers." (Chicago: 1737, Monadnock Block.)

"Compressed Air Illness." By E. Hugh Snell, M.D., B.Sc. Lond. 10s. 6d. (London: H. K. Lewis, 136, Gower-street, W.C.)

"A Scheme for the Regulation of the Output of Coal by International Agreement." By Emile Lewy. (London: Crosby Lockwood and Son, E.C.) Price 2s.

"A Scheme for the Regulation of Coal by International Agreement." By Emile Lewy. 2s. (London: Crosby Lockwood, 7, Stationer's Hall-court, E.C.)

"A Scheme for the Regulation of Coal by International Agreement." By Emile Lewy. 2s. (London: Crosby Lockwood, 7, Stationer's Hall-court, E.C.)

REVIEWS.

Fuel and Refractory Materials. By A. H. Sexton, F.I.C., F.C.S. (London: Blackie and Son, Limited.)

As stated by the author, in his preface, a small text-book on the subject of fuel is decidedly wanted at the present day. Excluding the Continental works, which are, of course, not accessible to all readers in this country, there are but few really good books on the subject. The standard work has, of course, been Dr. Percy's exhaustive treatise on Fuel, but this was published in 1875, and it is needless to say that distinct progress has been made in the technical applications of fuel during the 21 years that have elapsed since its publication. The work now before us is, undoubtedly, on a far less ambitious scale, and aims only at giving an outline sketch, where Dr. Percy gave a picture finished in all detail. The former is, however, sufficient for the purposes of a great many, both of students and of workers, and we are pleased to find that Mr. Sexton has, upon the whole, done his work very well indeed, and has the decided merit of having brought the subject thoroughly up to date.

We think, nevertheless, that it is a pity that he has decided to include refractory materials in the scope of his present work. Seeing that he has devoted over 300 pages to fuels, and less than 30 to refractory materials, it is quite clear that he cannot have done justice to the latter part of his subject; he has, indeed, treated it in the most meagre outline, and whilst, upon the whole, steering clear of serious error, he has necessarily omitted very much that ought to have been included, several aspects of the subjects not being touched upon at all.

His various chapters on fuel, both on the theoretical and the practical part of the subject, are, however, very well written, and contain much sound and useful information. We may single out the sections devoted to some of the more modern developments, such as producer gas and water gas, and the recovery of by-products both in coke making and in blast-furnace practice, as being especially well written and valuable. There are, however, several points that we do not think have received adequate consideration, and that bear the marks, probably, of undue haste. For instance, we find on page 65 a figure purporting to show the relative coal areas of the various countries of the world, which is remarkable chiefly for its omissions, no allusion being made to the coal fields of Germany, Austria, Russia, or China, not to mention any of the smaller ones of the East, such as India, Japan, &c., those of Australasia, or of Africa; it would, indeed, have been difficult to have produced a table more likely to mislead a student than the figure here given.

Another curious statement is one that we find as a preface to the water-jacket furnace, to the effect that "the smelting of ores of lead and copper in the blast furnace was for a long time unsuccessful." Surely Mr. Sexton must know that the blast furnace was for very many centuries the only kind of furnace used in the smelting of these ores, and that not only the water-jacket, but even the reverberatory, is but an invention of yesterday compared to the antiquity of the process that he describes as having been for so long unsuccessful. Now, can we agree with his further statement that the circulation of water in the water-jacket "reduces the actual efficiency of the furnace"; it surely amounts to the same thing as far as thermal efficiency is concerned whether heat be absorbed in warming water or in melting brick. There is, too, another statement about the use of anthracite in American blast furnace practice that would lead the reader to suppose that it had been abandoned as unsatisfactory, whereas some of the best pig iron made in the United States to-day is anthracite pig.

These points, though obviously needing correction, are, however, only minor blemishes that do not really detract from the value of the book taken as a whole, and that do certainly not prevent our recommending it to our readers as one of the best little books that we have yet come across on this important subject.

The Model Locomotive Engineer. By Michael Reynolds. Crosby Lockwood and Son, London. (Weale's Scientific and Technical Series.)

We have received a copy of the second edition of this little book, which forms one of the well-known series of works known as Weale's Scientific and Technical Series. This includes a large number of most useful elementary works on the various branches of engineering that serve admirably to ground students in the rudiments of their profession. The book before us may be divided into two main parts. The first is a history of the locomotive; and the second the development of a scheme of the author's for granting certificates to engine drivers, firemen, and engine boys. The first part is thoroughly well treated, the author being evidently an enthusiast in his subject, and he tells well the interesting story that he has to tell. He traces the gradual growth of the locomotive with all its difficulties and disappointments, and appears to have apportioned as fairly as possible the share of credit due to each of the large number of engineers who contributed towards the locomotive as we know it to-day. We think, however, that it is a pity that he stopped his history at George Stephenson. The development of the locomotive since his time is also a theme worthy of study, and upon which less has been written than upon its earlier history.

With regard to the second part, there is not much to be said. No such scheme has yet been introduced, and there does not seem much danger that it ever will be. Ever in this age of excessive examinations, the line must be drawn somewhere, and we should think that if there is anywhere a class of men to whom the examination craze is especially inapplicable, it would be found in the knights of the footplate. After all, their hands are required to be more familiar with the starting lever than with the pen, and we do not know that steadiness of nerve and presence of mind are easily tested in the examination room.

Elementary Engineering. By J. Sherren Brewer. Crosby Lockwood and Son, London. (Weale's Scientific and Technical Series.)

This little book also forms one of Weale's Series of Scientific and Technical Works. It differs, however, from most of its congeners, and by no means to its own advantage, in the manner in which it is compiled, being arranged on the catechetical plan. As usual in books so written, the information conveyed is "scrappy," imperfect and inaccurate. It no doubt is possible to so frame an answer that it shall tell everything that is to be known about the subject, but to do this requires a degree of skill that the author of the present work does not possess, and would in any case need far longer answers than are here given. To take an example at random, when we are told that lead occurs in Cornwall, Derbyshire, Cumberland, and the United States, and that it is necessary to smelt four times to procure pure lead from galena, though the experienced metallurgist can see what the author is driving at, the student is likely to take away an absurdly false impression of the real facts. We cannot suppose that the author is really as ignorant of the distribution of the various metals as his

method of arranging the facts would make him appear to be. Even as it is, his system of question and answer has apparently not satisfied even himself, for he finds it necessary to add a number of supplementary remarks, with the object of making good some of the deficiencies inherent in his system. The information in the little book is of the right kind for engineers, and is needed by them, but the method of conveying it is decidedly unsatisfactory.

REPORTS FROM THE MINES.

The Secretaries of their respective Compties have sent us the following Reports for publication:

LEADHILLS.—W. H. Paul, December 8:—Brown's vein. In Gripp's adit driving south of Wilson's shaft the vein is 4 feet wide composed of stone and spar of a kindly appearance, and a productive vein may be met with any day. Dubeis vein at same level driving north-west also looks more kindly, and yields good stones of lead ore occasionally. There is no change of moment in any of the other points of operation. Railway papers will be sent to-morrow.

WEARDALE LEAD.—Report on Weardale company's mines for the week ending December 5:—Groverake. Sinking old shaft; still in plate, but must be near the 4 fathoms limestone now.—Boltonburn. Little limestone drift east unchanged. Stoops in north flats from Watt's level worth 36, 36, 20, 18, and 8 cwt. per fathom. Stoops in south flats worth 20, 36, 28, 18, 12, 16, and 12 cwt. per fathom. Vein stoops worth 14 cwt. per fathom.—Greenlaw. Rac's drift, forehead in lead part of vein composed chiefly of plate, rider, and spar mixed with little ore. In a few more fathoms the lead and sparly part of vein will come together again. Stoops worth 14, 16, and 18 cwt. per fathom.—Lowe's Drift. The vein in forehead is at present very poor for ore. Stoops worth 12, 10, and 12 cwt. per fathom.—Sedling. Driving 64 level E in plate, vein 4 feet wide of rider, spar, and a little ore. Stope behind forehead, vein 4 to 6 feet wide, chiefly spar, and some rider, mixed with a little ore, worth 12 cwt. per fathom.—Kilhope. Stope in Middlegrove vein above English's rise looking better above the rise, worth 40 cwt. per fathom. Men are still engaged repairing the air drift. Ore raised for the week, 41 tons. Ore dressed for the week, 54 tons. Ore, slag, and fume smelted for the week, 83 tons, producing 44 tons of pig lead.

MISCELLANEOUS.

ALAMILLOS.—Mine report, dated December 2:—In the 40 fathoms level driving east of Santa Agueda's shaft the lode has become smaller, and is of no actual value. The lode in the 70 east of San winsa continues strong and regular, but has declined in value to 30 per cent. per fathom. In the 180 east of Taylor's engine shaft the lode has a more promising appearance and contains stones of ore. The lode in the 180 west is well defined and lets out water freely. The pitwork now being in place, Judd's engine shaft will be sunk as rapidly as possible.—Vicente's winze sinking below the 85 fathom level. The lode is regular and compact, and is valued at 1 ton per fathom. Galvez winze below the 180 rise in back of 100 fathom level. The lode has improved to 3 tons per fathom. The stope continues to yield well. Surface works are kept on with great regularity, and the machinery is in good working order. Estimated risings for December, 225 tons. The tributaries returned 7½ tons of mineral in the past month.—Llo. Q. Quintino Mine (Taylor's engine shaft). The lode in the 200 west is well defined, but contains little ore, and is valued at 35 tons per fathom. O'Brien's engine shaft, the 190 west has declined in value, and contains but little ore. The lode continues regular and well defined, and is valued at 30 tons per fathom. The stope continues to yield well. Surface works are kept on regularly, and the machinery is in good working order. Estimated risings for December, 210 tons. The tributaries returned 11½ tons of mineral in the past month.—Llo. Q. Quintino Mine (Taylor's engine shaft). The lode in the 200 west is well defined, but contains little ore, and is valued at 35 tons per fathom. O'Brien's engine shaft, the 190 west has declined in value, and contains but little ore. The lode continues regular and well defined, and is valued at 30 tons per fathom. The stope continues to yield well. 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that I am confident we shall shortly be on payable ore in this level. The importance of this will be seen from the fact that the cost of winning and carriage from this face would enable us to work at a profit. If even less than 5s. per ton was recovered in the battery. At present we are driving in the country on the hanging wall, my object being to push on to where we know there is good ore, and to establish connection with the Dunedin workings above. I will carry a crosscut through the reef to test it, and have every hope of shortly advising you of satisfactory results. Next, the drive on the western face of Dunedin level west is improving in value and size. A rise is being carried up on this level, which is now up 25 feet, and the value of the ore varies from £2 2s. 4d. to £2 5s. per ton. By carrying this rise up we can open out an intermediate, and so obtain communication with the workings above, where good ore was left in the wings. The only difficulty we have here is the extreme hardness of the lode, which makes driving very tedious and somewhat costly. At present we are not dealing with the Day Innen lode, intending shortly to run a crosscut through the City of Dunedin drive and pick it up on its underlie, thus giving very considerable backs and an easier way of conveying the ore. In the steps on the Norfolk section the ore has not been quite so good during the last two weeks but is now improving steadily. At the battery we are keeping 20 head of stamps running one shift. The water in the creek is already diminishing, with the drier weather we are now experiencing, but unfortunately as our roads improve we are less able to obtain the value of them, and this will always be a source of grievance until we carry the water from a higher level, when we shall have ample power even with a smaller supply of water than we now have. In the cyanide plant we are settling down to steady work and putting through 50 tons per week. This, of course, will not enable us to keep up with the supply of tailings, and as I am very desirous of increasing our crushing and cyanide output I have decided upon enlarging our cyanide plant by putting another tank equal in capacity to the two already erected. The diameter will be 22 feet, and depth 6 feet, the contract price being £120. One pump and connections will be required and extension of the building to enclose it. This will not be costly, and I estimate the first month's run will nearly pay for it, and give us an opportunity of reducing the large heap of tailings which are sadly in our way. In regard to extraction, we find that a slower leaching is greatly in our favour. For instance, during the last month our average extraction has been 70 per cent, but two tanks which received a longer period reached 83 per cent. This is, of course, a marked improvement, but reduces the amount put through in a given period. The western drive on the City of Dunedin reef has been extended 23 feet, making the total distance driven from the crosscut 335 feet. The lode in the face is fully 5 feet in width, and is improving in value as the drive advances. The rise on the reef is now up a height of 20 feet, and two steps are being carried along over the level. The lode here is very large, and a fair grade of ore is being won. The eastern face on the same reef has been carried forward 28 feet, making the total distance driven in this direction 255 feet. The lode at this point is also of large dimensions at present, is of rather a broken nature, but shows signs of coming together as the drive is extended. The drive east on the course of the main reef in the battery level has advanced 42 feet, making the total distance driven from the crosscut 335 feet. A considerable improvement has taken place in the class of country in the last few feet of driving.—Clean up, As I advised you by cable, I have decided to delay this to an eight weeks' period, instead of four, being actuated thereto by the terribly bad condition of the roads in the commencement of the month causing us to hang up a great many stamps, in consequence of ore not coming forward owing to breakages of drays and injury to horses. This has affected our returns somewhat, the hard squeezed amalgam for the four weeks being 172 ounces. The cyanide treatment has been equal to 200 tons in the same period, the average value of tailings treated being £1 5s. per ton, of which we have extracted 70 per cent. Should this weather continue, we shall be enabled to get more ore down, but I fear that we cannot keep more than 20 stamps at work with our present power. Directly our new vat is at work I will start two shifts with the battery.

WATEY'S TRUST MINING AND PUBLIC CRUSHING.—The mine manager reports for fortnight ending October 24:—Under shaft No. 1 has been sunk a further depth of 5 feet, making the total depth 103 feet. Reef varies considerably in width from 6 inches to 2 feet, carrying visible gold. Occasionally we strike rich shoots. 35 feet level east has reached a length of 30 feet. Very little change in reef. Surface drive extended 12 feet, total 50 feet, 2 feet 8 inches of solid reef now showing across the face carrying visible gold. Sample taken from the dump of this shaft gives very favourable results. No. 2 reef about 2 chains north of main underlie sank an additional 4 feet, 12 feet from surface. Drove west 19 feet on the hanging wall. Reef not yet broken through. B No. 2021 drove north-east 5 feet, total 7 feet.

AUSTRALIAN.

AUSTRALASIAN GOLD TRUST.—The joint manager of the Australasian Gold Trust (Limited) and the New Zealand Pioneers (Limited) reports on October 22 upon the companies' claims on Taipatu Gold Estate as follows:—I should at once equip a travelling party to explore some of the back part of the Taipatu block, of which I have heard extraordinary stories as to the reefs contained in it. It lies directly in the line of the gold-bearing part of that district, and I should think would warrant the cost of two or three men during the summer months, when this heavily-timbered country is most accessible. I am glad to be able to report well of the finds both in blocks 2 and 3.—No. 2, McJones, Mr. Hursthorne reports the wings—or shaft following the reef straight down its course into the mountain—look it down 50 feet. It is carrying a well-defined reef 5 feet wide with a clean hanging and foot wall and good peg, or mud-mud clay lining, which in all permanent reefs is found between the quartz and the walls. The quartz carries gold throughout. Mr. Hursthorne reports that he has never yet failed to get gold out of any he has tried, though none of it is so far rich.—Block No. 3. Here the face of the hill is excessively steep, probably about 50°. Mr. Hursthorne has therefore gone down the hill about 50 feet below the outcrop, and is driving a tunnel to cut the reef; 60 or 65 feet will probably do it. Should the reef lie down so far and show gold of a payable quality, I shall drive north and south and prove it, as in No. 2.—Independent. I have seen some exceedingly fine prospects from the tunnel which has been driven into this ground. The quartz however so far exists in ledges or thin seams, but the indications of a large body of stone are highly favourable, and Mr. Hursthorne and Mr. Coutts, who have examined the spot, are satisfied that the tunnel now being driven is the true way to prove this portion of the ground.

HALEY'S No. 2 SOUTH.—Copy of report from the mine manager, Mr. W. M. Vivian, dated November 4:—In the 100 feet level south 7 feet have been driven, making the total distance from the crosscut 110 feet. The reef is 18 inches wide, and assays 6 dwt. 12 grains of gold per ton. The 100 feet level north has been advanced to a total distance of 83 feet from No. 1 shaft. The country is a medium diabase and shows no trace of the reef at present.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for week ending October 29:—Blackwood shaft 50 feet level. All the faces throughout the northeast stopes on this level are showing fair milling carbonate ore. 55% tons of carbonate ore was broken during the week.—100 feet level. The usual quantities of carbonate ore were broken from the southern section and east via stopes. The northern and western faces in the former stopes look very well. These stones produced 447 tons carbonate ore, and from the eastern veins we mined 384 tons.—202 feet level. The sulphide stopes off No. 1 west crosscut are showing good faces of ore all round. We broke 418 tons for the week. The southerly drive off same crosscut was driven 3 feet, total length 51 feet. Face still in milling sulphides. 36 tons were obtained from this drive.—310 feet level. Very slow progress is being made in the uprise owing to the hard nature of the ground. 3 tons are sorted out.—Howell's shaft, 10 feet level. A large supply of carbonate ore (830 tons) was obtained from the far north stopes. The faces are showing fair grade carbonate ore, 200 feet level. The sulphide stopes off No. 2 west crosscut are opening up satisfactorily, splendid faces of good milling ore being exposed. 355 tons were obtained. Incline wing was sunk 5 feet, total depth 57 feet, the bottom still carrying sulphide ore. 10 tons were sent to the surface. The stopes in the far east vein is showing up g of friable sulphide ore. This stopes yielded 131 tons sulphide ore.—300 feet level. South drive driven 3 feet, total 29 feet. Sulphide in face. Stopes off east crosscut and south drive produced 443 tons of sulphide ore.—Mill. The mill ran smoothly during the week, and did good work. Total quantity raised 2615 tons.—Assays for the week. Carbonate ore, lead from 21% to 47 per cent., silver from 1% to 63 ounces per ton. Sulphide ore, lead from 18% to 46 per cent., zinc from 1% to 39 per cent., silver from 6% to 18 ounces per ton.

BUNYIP GOLD MINES.—The following information has been extracted from the reports recently received from the mine:—Main shaft has been sunk to a depth of 92 feet, at which depth a crosscut has been put in south 7 feet. In sinking the last 6 feet or so a large lode of good grade auriferous quartz was met with over 7 feet wide. This is not thought to be the main lode, but is expected to junction with it.—No. 2 underlay shaft, 60 feet level. The drive at this level has been put in west 34 feet, total length 51 feet. The drive maintains its original width of 4 feet, the average assay value of the ore being about 8% ounces. Stoping is being actively carried on in this drive, and it is anticipated that by now sufficient ore has been sorted to the Mount Borge's battery to start crushing with the five head of stamps leased there.—No. 3 shaft. This shaft has been started vertically to the west of the main shaft, and has reached a depth of 47 feet.—Battery site. This has been finally granted by the Warden.—Water. A lake of pure, fresh water has been discovered about 9½ miles west north west of our property, estimated to contain sufficient to last two or three months, in spite of the rapid evaporation at this time of the year.

COLUMBIA (Charters Towers).—The mine managers report for the fortnight ending October 21, as follows:—During the fortnight the north drive has been extended 21 feet, total 26 feet. In the end of the drive there is heavy mineral stone 8 inches thick, and it has the appearance of increasing. The south drive has been extended 5 feet, total 24 feet. There is nothing fresh to report in this drive. The pulley wheels arrived on October 15, and they are placed in position. We are pushing ahead the other top work as quickly as possible. During the fortnight 9 tons of quartz were raised.

FOREST CREEK (Victoria).—The following is a copy of mine manager's report, dated Chetton, October 30:—Main engine shaft sunk a further depth of 18 feet 6 inches during fortnight, total from surface 279 feet 6 inches. A large body of water cut, and raising some 7000 gallons per hour. Although slightly delaying sinking, it shows we are in closer proximity to quartz forms than we expected.

CURTIN DAVIS PROPRIETARY.—Mine manager's report for week ending October 24: 160 feet level. Have put one shift to drive this level south on the course of the lode. Have secured the base of wing and cleaned up drive and driven 5 feet, total 11 feet.—The lode has widened from 2 feet to 3 feet of oxidized ore, and looks strong in the face. 42 feet level driven 6 feet, total 21 feet.—Lode 3 feet wide, between two good walls, with a little ore showing on the footwall. Wings below this level sunk 6 feet, total 55 feet. There is 12 inches of ore against the hanging wall carrying good proportion of fah. cr. l. the north end being high grade. 560 feet level driven 6 feet, total 237 feet. Lode formation 4 feet wide, with veins of fah. ore and copper pyrites through it with a 2 inch seam of siderite and yellow copper on the footwall. Wings sunk 5½ feet, total 43 feet. Lode 15 inches wide of siderite and yellow copper ore, keeping a very even underlay and looking well. 680 feet level driven 4½ feet, total 260 feet. Lode 2 feet wide, with 1 foot of ore against the footwall, 8 inches of it being high grade yellow copper and fah. ore. The improvement in the ground in this tunnel continues, and

the hanging wall is very even and regular near the face. 810 feet level driven 6 feet, total 238 feet. Lode shows 12 inches wide of siderite and iron pyrites, carrying yellow copper and fah. ore. There is now a good stream of water coming from the face of this drive, and the 83 feet level is quite dry. 1010 feet level driven 4 feet, total 85 feet. Lode formation carries 12 inches of quartz and iron pyrites, with an intrusion of conglomerate for the full width of the face.—Assays, 420 feet level. F. hi. or. 234 ounces 3 grains silver per ton, 22½ per cent. copper, 23½ per cent. bismuth, 9½ per cent. antimony.—560 feet level. Fah. ore and copper pyrites, 23 ounces 3 grains silver per ton, 12½ per cent. copper, 3½ per cent. bismuth, antimony trace.—448 feet level. Iron pyrites, 5 ounces 2 dwt. 21 grains silver per ton, 1½ per cent. copper.

GRAT BUNYIP GOLD ESTATE.—Ballarat, November 2:—A apprehension conveyed in report of last week of the necessity of having to utilise the 18 inch pumps for sinking merged into certainty, when the lesser lift was overcome by a heavy influx of water, resulting in temporary suspension after driving 2 feet to depth then reported. Now down 308 feet. Shall resume sinking with the big lift on Wednesday. At the quartz shaft 8 feet have been sunk by two shifts, the remaining eight hours being occupied in taking the accumulated water from cistern.

HANNAN'S BROWNHILL.—Extract from mine manager's report dated November 4:—In the mine all the men are employed breaking and bagging ore. The first lot of 50 tons is bagged and on the surface. It averages about 8½ ounces per ton. All our assays are not yet completed.

HANNAN'S STAR.—Mine assays dated October 21 have been received from the mine superintendent.—Donoughmore's shaft timbered up 38 feet 6 inches, and put in ladders. It is now timbered up to brace. Have also put in 400 feet of runner in the north compartment, fixed up cubicles and divides at the two plates, put in doors, fixed flat sheets and rails and landing brace at the 175 feet level, and am now hauling with cage and trucks in that compartment. Have put in valves and removed one of the large iron kibbles on the ground to act as a water tank for bailing purposes in the other compartment thereby saving a great quantity of steam, coal and fuel for both cage and bucket elevators. The ground is much harder than previously reported. There is still a quantity of water weeping out of face of crosscut at the end. (A cablegram has since been received stating that the lode has been cut at 129 feet from shaft.) The ground is very hard, and gives a much harder than previously reported. 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at this point a larger intrusion than had been generally anticipated. Since the falling off of the water referred to, we have been partly supplied from Naumann's water shaft. —Lease 1151, No. 12 shaft, north-west drive. Number of men four, work done 21 feet, total length 184 feet. Lode wide 5 inches. Value, trace. The reef at this point has diminished in size from 15 inches to 3 inches, and the quartz has suddenly fallen off in value. We shall continue the driving ahead, however, with the hope and expectation that shortly an improvement will take place, both in productiveness and size. Having already driven this level through a productive lode for 150 feet, we feel it right to continue with this level, and to see if the satisfaction whether or not the lode will again become profitable. —No. 12 shaft. Number of men four, work done 23 feet, total depth 12 feet. Lode wide 2 feet, value 1 ounce 6 dwt., 7 grains. We have great pleasure to inform you that the No. 12 shaft has struck the flat lode. This is to us an exceedingly interesting and pleasing feature, showing conclusively that the reef still holds good as depth is reached. We have commenced to drive south-east on the course of the lode which we shall continue to do for about 40 feet, when we shall rise on its course towards the deepest point at the No. 12 workings, in order to secure ventilation, after which we shall start driving north-west. It is evident from the lode mentioned in this shaft that we shall again lay open a valuable piece of ground. Doubtless we have reason to congratulate ourselves on the acquiring of the lease 1151, and we can but hope that the flat reef will be of an enduring character, providing, of course, that no faults, slides, or dislocations occur. At all events we have already opened up at this point (No. 12) a length on the course of the lode of 300 feet by 300 feet, which will possibly yield 6500 tons of quartz of a remunerative nature.

AFRICAN.

BARRETT.—The mine manager reports delays in completion of the new machinery, and scarcity of water delayed commencement of operations till November 15. All now running well. New dry crusher is a great success and answers all expectations. Clean up after 15 days' work gives 500 ounces, value £1100. Tons treated, 1400. Tons mixed and delivered 1900. Work at Bantin's and Haenbach in full swing again. Estimated delivery for December 3000 tons.

BLOK A RANDFONTEIN.—The following report has come to hand:—At the main shaft sinking has been resumed below the second level. The leader has just been intersected in the crosscut driven at this level and cut into 30 inches, but its full size cannot yet be ascertained. Assays from the portion exposed give 2 ounces 3 dwt., 18 grains per square foot. Development for the week is:—Sunk 43 feet, driven on reef 59 feet, crosscut driven 12 feet. The amount of ore developed for a width of 30 inches is 124 tons. The assays for the week range from 2 dwt. to 7 dwt. for a width of 9 inches, averaging for a sloping width of 30 inches 11 dwt., 17 grains. The compressor is being erected with all possible speed. The new Babcock's and Wilcox boilers are on the ground. The rest of the machinery is in good working order.

BURBAN ROODEPOORT.—Report of October operations: Tons milled, Block 2 south reef 753 tons, Block 2 main reef 365 tons, 7898 tons. Block 1 south reef 512 tons, Block 1 main reef 1785 tons—2277 tons, total 10,175 tons, producing 4869 ounces. Tailing treated 2216 tons, producing 1316 ounces, value 615 ounces. Summary for month, Block No. 1, 78 feet level, crosscut 31 feet, 230 feet level east drive 16 feet, total 47 feet. —Block No. 2, Ma'n incline shaft sinking 50 feet, 7th level main reef east drive 52 feet, 7th level main reef west drive 43 feet, 7th level main reef west rise 41 feet, 8th level south reef east drive 72 feet, 8th level south reef west drive 139 feet, 8th level south reef No. 2 west drive 68 feet, 9th level south reef east drive 70 feet, 9th level south reef west drive 64 feet, total 62 feet.

GELDENHUIS ESTATE.—The directors submit the following summary of operations for October:—Quartz mined 19,979 tons of 2000 lbs. After sorting and balances in bins the quartz milled (120 heads) was 16,107 tons, yielding melted gold 5147.75 ounces, valued at £18,597 9s. 9d. Tailings treated 10,841 tons, 1781.50 ounces, concentrates treated 505 tons, 588 ounces, total 7624.28 ounces; £6560 8s. 6d. total 225,157 1s. 3d. Cost £13,083 1s. 1d. Mining and hauling 7s. 10d. transport and sorting 9s. 4d., milling 2s. 5s. 2d., general maintenance 2s. 7s. 0d., total 1s. 9s. 0d. Charges 7s. 9d., total 1s. 5s. 8d. Expended on mine development 3s. 3s. 10d.—£284 6s. 3d., total 17s. 8s. 2d. Cost of producing and treating concentrates £104 1s. 2d., cost of treating tailings 2150 5s., total £17,315 7s. 4d. Profit for month £7842 7s. 1d.—Capital account. Expended on machinery, shafts, &c., £1374 1s. 1d. Number of feet driven and tons treated during month 8794. The ore developed for the month amounted to 22,904 tons.

JUMPERS.—Summary of operations for the month of October:—100 head mill. To mining 12,010 tons at 1s. 4s. 8s., £3489 1s. 8d. To hauling and pumping 11,534 tons at 2s. 6s. 1d., £1466 8s. 3d. To transport 12,010 tons at 1s. 0s. 2d., £208 1s. 3d. Total, £2,745 1s. 1d. To re-deposition on 11,534 tons 4s., £2306 1s. 6s. Cost per ton 2s. 8s. 9d. Total, £14,700 11s. 1d. Cost of treating 1931 tons tailings £223 1s. 1d., total 21s. 5s. 3d. 100 tons tailings, £2124 1s. 9d. Total, £18,658 1s. 2s. By 312.10 ounces gold at 74s., £13,406 4s. 2d. By concentrates 633 ounces, £243 5s. equal to £15,849 9s. 2d. By 936.20 ounces gold from tailings, £285 1s. 2d. Total, £18,658 1s. 2d. Total receipts and expenditure for month. To cost, mining, and milling 12,000 tons cost £17 7s. 5s., equal 5s. 1s. 6s. 2d. To plant account, £2,647 1s. 5d., to mine supplies, £127 1s. 3d., to buildings, &c., £269 5s. 3d., to balance £3340 1s. 5d., total £18,658 1s. 2d. By gold, concentrates, and tailings £18,658 1s. 2d., total £18,658 1s. 2d. Driven and sunk during the month 286 feet.

MAX CONSOLIDATED.—The directors submit the following report for the month of October:—Battery, 100 stampers ran 2656 days, crushed 17,000 tons, gold won 1854.40 ounces (average 6.090 dwt. per ton), valued at 72s. 6d. per ounce £13,247 4s. 4d.—Cyanide works. Siemens process, 900 tons tailings treated, gold won 1900 ounces bullion (average 4.2 dwt. per ton), valued at 6s. per ounce £3700. Other receipts £19. Total £18,998.4s.—Working costs, Mining 12,000 tons, cost £2553 1s. 1d., equal 1s. 2s. 7s. 1d., per ton, Development 12,000 tons £1393 6s. 4d., equal 2s. 3s. 6s. 2d., per ton. Total £3928 1s. 5d., equal 16s. 6s. 7s. 4d. Profit for month £3124 1s. 9d. Total, £18,658 1s. 2s. By 312.10 ounces gold at 74s., £13,406 4s. 2d. By concentrates 633 ounces, £243 5s. equal to £15,849 9s. 2d. By 936.20 ounces gold from tailings, £285 1s. 2d. Total, £18,658 1s. 2d. Total receipts and expenditure for month. To cost, mining, and milling 12,000 tons cost £17 7s. 5s., equal 5s. 1s. 6s. 2d. To plant account, £2,647 1s. 5d., to mine supplies, £127 1s. 3d., to buildings, &c., £269 5s. 3d., to balance £3340 1s. 5d., total £18,658 1s. 2d. Driven and sunk during October, the month's run being equivalent to 100 stampers running 2656 days. The inability to keep the whole mill at work was due to breakdown of the electrical pump.

MODERFONTEIN EXTENSION.—Report for October:—I beg to report on work done on your property to end of October as follows:—No. 1 shaft sunk 30 feet, total depth 191 feet. No. 2 incline sunk 35 feet, total depth 84 feet. No. 3 shaft sunk 9 feet, total depth 69 feet. No. 4 shaft sunk 29 feet, total depth 63 feet. Prospecting work 10 feet. Total sinking 119 feet for month of October. No. 2 shaft east drive 25 feet, total length 54 feet. No. 2 shaft west drive 31 feet, total length 65 feet. No. 2 shaft north drive 17 feet, total length 44 feet. Prospecting work 15 feet. Total driving 89 feet for month of October. The air in No. 1 shaft has become exceedingly bad, and a hand blower and pipes have been ordered for it, and also one for the drives in No. 2 shaft. No. 2 incline still maintains a dip of about 14 degrees, but a steeper angle, or also a down-dip fault, may at any time be expected, providing there has been no record in depth of borehole at No. 1 shaft. Shafts No. 3 and 4 are awaiting erection of hoisting engine and boiler. The prospecting work referred to has been done far to the east to prove the formation where there appeared to be some outcrop of rock, and some fine pebble banket. No gold was discovered in the many washings from this work, and apparently there is at this point a line of displacement having a northerly and southerly course. No. 2 incline sampled at 60 feet, 10 inches thick, assayed 1 ounce 13 dwt., 12 grains. No. 2 incline sampled at 60 feet, 8 inches thick, assayed 2 ounces 12 grains. East drive sampled at 53 feet, 12 inches thick, assayed 1 ounce 1 dwt., 12 grains. West drive sampled at 53 feet 8 inches thick, assayed 8 dwt. West S drive sampled at 73 feet, 15 inches thick, mixed, assayed 3 dwt., 18 grains. North drive sampled 53 feet, 12 inches thick, assayed 1 dwt. Headgears and lines of pulley stands for shafts 3 and 4 are being made and erected. The new store rooms and new compound are nearing completion. The boiler for engine at shafts No. 3 and 4 will be erected as soon as it arrives.

NIGEL DEEP.—Report for the month of October: Shafts. Enclosed please find mine report for past month. I am much pleased to send in report for the sinking in C shaft for the past month (118 feet), which, I think, establishes a new record for hand sinking in vertical shaft. This was done with an average of 40 boys daily in hard quartzite, the rock being so hard at times that the boys were unable to get down their holes in the shaft. As we can work 80 boys daily to advantage in these shafts, it will be seen that the work accomplished during the past month with the number of boys available has been very creditable. At the present rate of sinking, the reef (Nigel) should be sunk and in two to three months' time in C shaft; while in D shaft I look forward to finding the reef at almost any day, as my calculations are based on a depth of 653 feet, and the present depth is 677 feet. In B shaft the first lift of 200 feet of the Cornish pump was put in the short space of four days, the sinking being suspended to wait for the completion of the brickwork. The excavations for C shaft have been completed and the brickwork has been commenced. The 100 feet smoke stack has been erected, and the brick base and guy line pillars for same completed. At B and D shafts permanent drying rooms for miners have been erected. A contract has been let for building an earthen embankment around the powder magazine as required by the mining law.—Mine report. Number of feet sunk B shaft 61. O shaft 112, D shaft 81. In B shaft sinking suspended for four days on account of putting in 200 feet of Cornish pump. Nature of rock passed through B shaft greenstone dyke, and D shaft hard quartzite. Average number of miners employed in B, C, and D shafts 3 each. Daily average number of boys shaft 27-38, C shaft 43, D shaft 42-43. Number of feet timbered B shaft 54, O shaft 22, D shaft 72. Total depth B shaft 407, O shaft 620, D shaft 627.—E. H. Gethswate (manager).

NORTH RANDFONTEIN.—The following report has come to hand:—Total development for the week is 300 feet. The third level main crosscut is now 312 feet in from the shaft, and will intersect the reef in about a month. The south level main crosscut is 96 feet from the shaft. Stopping from the first and second levels. The mill has been running very satisfactorily, and 1,772 stamps of amalgam have been recovered from the inside and outside plates. 40 stamps can 13 days 3 hours. Water in dam rose 3 feet through storm. Pipe line from Robinson Handfontein to our reservoir is completed. All machinery working satisfactorily.

FORGES RANDFONTEIN.—The following report has been received:—Mine developed 105 feet, assays from development faces. No. 2 shaft fourth level north 2 ounces 13 dwt., central winze fifth level north 3 dwt., 4 dwt., central winze fifth level south 3 ounces 13 dwt., south winze 4 ounces 2 dwt., 40 stamps can 13 days 3 hours. Water in dam rose 3 feet through storm. Pipe line from Robinson Handfontein to our reservoir is completed. All machinery has been effected with a 93 day shut down permit.

PRINCESS ESTATE.—The following report on the company's operations for the month of October is published by the directors for the information of shareholders:—Mine. Number of feet sunk and driven 491.—Mill. Number of stamps (24 hours) working 40, stamps 22, ore milled 4376 tons, yield in melted gold 1152 ounces, average per ton 9.12 dwt., 4.2 grains.—Cyanide works. Tons of tailings treated 1912, yield (in bullion of £65, value) 674 ounces.—Revenue and expenditure:—Expenditure. Mining, hauling and pumping £3638 1s. 4d., sorting

and trammeling £315 9s. 4d., reduction £391 1s. 10s., general charges at mine and head office £867 12s. 1d., mine development redemption on 4376 tons at 6s. 6d., £1422 4s., working expenses at cyanide works £373 1s. 11d.; total, £7609 12s. 4d. Balance, profit for month, £2043 17s. 8d. Total £2963 10s.—Revenue. Mill gold (1935 ounces at 71s.) £2381 10s., cyanide gold (674 ounces at 60s.) £2022, water rent and licenses £15; total, £2963 10s. N.B.—The revenue from water rents and licenses varying very much in each month, the average of the annual receipts under this heading has been adopted in this report.—Working costs per ton. Mining, hauling and pumping on 4376 tons 1s. 7s. 4d., sorting and trammeling on 4376 tons 1s. 0s. 6d., reduction on 4376 tons 1s. 7s. 4d., general charges on 4376 tons 3s. 0s. 6d.—25s. 2s. 4d., mine development redemption on 4376 tons 6s. 6d., cyanide works (on tonnage treated, 5s. 2s. 4d.) on 4376 tons 3s. 0s. 6d.; total, £344. 9s. 3d.—Total expenditure. Working expenses £7519 12s. 4d., on capital account — for development, permanent works £1944 1s. 10s., machinery and plant, buildings, &c., £15 11s. 5d. £8600 2s. 7d., less amount redeemed from mine development on 4376 tons milled, at 6s. 6d., £1422 4s., total £3177 1s. 8d. 7s.

RANDE.—Extract from the mine manager's report for the month ending October 31.—Fest driven during the month 12546, fest sunk during the month 7316, feet out, &c., during the month 31, total 231 23 feet. Tonnage of ore at grass 160 tons, total tonnage of payable ore in sight 45,732 tons.

RANDE.—Extract of report received from the mine's manager:—No. 3 shaft, No. 3 winze, sunk during week 9 feet. No. 1 reef is about 3 feet wide and pans fairly well. No. 4 winze sunk during week 7 1/2 feet. No. 1 reef has widened out the last 15 feet to about 3 feet, and pans exceptionally well. We are still sinking on the hanging wall of No. 2 reef, which continues to pan well. No. 2 level west drive advanced 12 feet. During the past week we have opened out on some good ore, particularly on No. 1 reef, which should give good results from assays. From pannings taken during the week I estimate the free gold to be from 7 to 8 dwt., with the remainder containing very heavy concentrates. East drive advanced 10 feet. No. 1 reef driven on in this drive is 4 feet. Samples taken during week over 3 to 4 feet give 9 to 10 dwt. free gold. These samples also show a large quantity of pyrites. These good results have only recently been obtained, and it gives me much pleasure to note this. Indeed, it will be encouraging to know that I fully anticipate opening out very well in the lower levels.

ROBINSON RANDFONTEIN.—The following report has been received:—Main shaft. This has been sunk 15 feet. The formation continues very regular, with an average dip of 68 per cent. The total footage in mine is 131 feet, comprised of rising, sinking, driving, and crosscutting. The samples for assay taken from the eight different faces, stretching over a length of 2000 feet on the strike, gave a result 135 dwt., 3 1/2 grains over a thickness of 4 inches. The erection of compressor is now complete, and the first boiler of the new plant is being built in. It is expected to start this new machinery in about three weeks hence.

WESTLEIGH.—Extract from mine manager's report, dated from Klerksdorp, No. 3 winze 11—Mining has progressed as follows: The west incline was hoisted into the vertical shaft on the 1st of the month. Since then very little sinking on the incline has been done, as it was necessary to make arrangements to deal satisfactorily with the strong feeder of water making in the incline. On the dip side of the vertical we have deepened our sump and drained the water back into it, as I proposed doing in my last report. I trust we shall now be able to make our usual progress in the incline without further hindrance. The incline shaft has progressed during the last fortnight 18 feet, making the total depth 90 feet. We have also excavated a sump and standage capable of holding 5000 gallons of water. I propose to drive east and west from the bottom of the sump until I have standage for 14 hours' water. This will pay for itself in coal shortly, and will, moreover, be proving the ground as far as we go.

CROWN REEF.—The directors have the pleasure of submitting the following report on the working operations of the company for October, 1896, which shows a total profit of £16,003 6s. 10d.:—Mine. Number of feet driven sunk and risen exclusively of stopes 31 1/2 feet. Quartz mined 13,850 tons. Quartz on land surface, October 31, 5318 tons.—Mill. Number of days (24 hours) working 120 stamps 27 1/2-24 days, tons crushed 15,745 tons, tons crushed per stamp per 24 hours 4785 tons, yield in melted gold 6917 ounces 9 dwt., yield per 8 dwt., 18.584 grains.—Cyanide works. Tons sand and concentrates 11,325 tons, yield in melted gold 4503 ounces 3 dwt., yield per ton 7 dwt. 14.469 grains, working costs per ton 3s. 8s. 54d.—Slimes works. Tons slimes treated 1900 tons, yield in melted gold 348 ounces, yield per ton 3 dwt., 1s. 915 grains, working cost per ton 6s. 8s. 82d., royalty cost per ton 4s. 55d., total cost per ton 7s. 1s. 42d.—Expenditure and revenue. Expenditure. 120 stamp mill, £14,257 1s. 2d., equal cost per ton 8s. 1.022d. Transport expenses £24813s. 4d., equal 3790d. Milling expenses £2380 1s. 10d., equal 3. 028d. Cyanide expenses £2101 17s. 4d., equal 8s. 038d. Slimes expenses £2678 5s. 1d., equal 10.308d. General charges £2175 10s. 4d., equal 2s. 978d. Mine development £2586 1s. 1d., equal 8.933s. Total £22,071 12s. 2d., equal 21s. 8s. 555d. Profit for month £16,003 6s. 10d., equal 21s. 8s. 339s.—Revenue. Gold accounts, 6917.45 ounces from 120 stamp mill, value £13,635 15s. 7d., equal value per ton 21s. 10d. 0.273d. 43.515 ounces from 120 stamp cyanide works, £13,575 1s. 5s., equal 17s. 2.925d., 34.984 ounces from 120 slimes works, £1230, equal 1s. 6.291d. Total, 11,570.60 ounces, £238.10 1s. 1d., equal 22s. 9s. 4943d.—General. The following are the particulars of the lineal development work done for the month. Fifth level. Driving on south reef east and west 29 feet. Sixth level. Driving on south reef east and west 73 feet. Driving on main reef leader east and west 23 feet. Sinking winze 118 feet. Eighth level. Driving on Main reef leader east and west 25 feet 6 inches. Sinking winze 77 feet. Crosscutting 18 feet. Total 811 feet 6 inches. The tonnage of ore exposed by the above works amounts to 23,630 tons. The 120 stamp mill and cyanide works ran with their accustomed regularity during the past month. All the native employees on your mine struck work on the night of October 7 last, consequent upon the reduction of native wages coming into vogue on October 1, and the nine hours' system of working being enforced. The natives remained out on strike until the morning of the 13th instant, when all hands again resumed their ordinary routine. During the time of the strike no ore could be hauled from underground, but 60 stamps of the battery were kept running with rock taken from the surface stock piles. This was loaded and taken to the mill with the aid of the white employees. The only effect of importance the strike produced was to lessen the tonnage milled for October and to increase the cost per ton, but the output shows a small increase over that of September. In consequence of the recent decision of the High Court of this State, whereby the African Gold Recovery Company's patent, for the extraction of gold from tailings by the cyanide process, was held to be invalid, your company is released from its contract with the African Gold Recovery Company to pay Royalty, and the revenue will accordingly be increased by about £300 per month.

MISCELLANEOUS.

PUNJOM.—The secretary of the Panjum Mining Company (Limited) advises that he has received the following progress report for the month of September from the manager at the mines:—Mining. This has had our best attention and fair progress has again been made.—August shaft, 200 feet level. This point continues to yield a large proportion of our output of ore, and from appearances will do so for some time to come. The grade is low, but it has improved somewhat during the month. The drive on Gillies' reef has been continued, but I regret to say nothing of value has been reached. The north drive on the course of the north and south reef was being driven in good looking formation, but up to this time it is without ore. The stopes on both the east and west and north and south reefs are without change to notice and still giving their usual quantity of ore for the mill. Intermediate level. I am pleased to be able to report an improvement in the quality of the ore won from this point, and it is to the stopes here that the credit must in great measure be given for our increased output of gold for the month. The drive going west has not yet reached the reef, but will do so within the next few days.—110 feet level. There is no change to report in the stopes here. A wide road has been commenced to connect with the stopes at the intermediate level.—The south shaft on the course of the north and south reef has not yet reached anything of value.—New leader. The ore won from the various points at work here shows an improvement both in quality and quantity compared with August.—Drivage. Drivage for the month 50 feet 5 inches, ore mined 1145 tons, made up as follows:—August shaft 612 tons, new leader 533 tons. Milling. This was carried on during 28 days, crushing 1145 tons, yielding 57 ounces 12 dwt. of melted gold.—Cyanide works. These works ran 28 days, treating 50 tons of concentrates yielding 80 ounces of melted gold. The old earth carthorse has been taken down and replaced entirely with brick made on the ground. It is now a really good job done and should soon repay for itself in the less consumption of firewood.—Cyanide works. This plant ran 33 days, treating 720 tons of

with the compound was 95 millions. In 1843 Taylor's engine again did a very high duty, averaging 99 millions for the year, the highest being 105, Sims compound having fallen to 87. This year was the highest average for the whole of any year recorded, showing 57 millions, and for December the highest monthly average ever recorded, 60 millions.

Although Taylor's engine did a splendid performance for 1842-3, averaging 97.5 millions, the best six engines during the same period averaged only 75 millions; so that for the four years Taylor's did 23.5 per cent, better than six of the best. From this time the duty of the best engines began to diminish, having worked almost to breaking strain, and the engines and pitwork not having been made heavy enough to stand the strain of such high expansive working, the duty naturally fell away, and although the better duties diminished the lower ones gradually improved, so that the average duty kept about the same. In 1847, Taylor's engine had fallen to 87 millions, and the best six averaging only 63, and for some reason or other for the month of May the duty was reported for the first time in two columns, one representing that done by the bushel, and the other showing an equivalent if computed by the hundredweight. This year was somewhat remarkable in engine reporting, as I find that, in 1845, Mr. West's engines, including the Fowey Consols, had fallen a long way below the best, and he withdrew all his engines from Lean's reporter.

In January, 1847, the first *Monthly Cornish Engine Reporter* appeared in opposition to Lean's, reported and published by a Mr. Browne, of St. Austell. This reporter was almost monopolised by the West's, and in carefully looking over one of these I should say the gentleman responsible for its production was very compilable, as you will judge from the following, and taken from Brown's reporter:—

Where the steam pipes and boilers are left uncovered for the purpose of drying the men's clothes, the following deductions are made from the actual consumption of coals:—

Engines working under two strokes per minute...	... 1-7
Engines working two and under three strokes per minute ...	1-8
Engines working three and under five strokes per minute ...	1-9
Engines working above five strokes per minute...	1-10

Whatever allowances were made, I find that Mr. West's engines rapidly increased in duty on the issue of this new reporter, and no doubt the calculations for allowances were made very minutely for the varying number of strokes, but there is no data given as to the mode of arriving at these deductions.

This reporter did not find much favour outside Mr. West and the publisher and the publication has long ceased to exist. The high duty of some of the best engines as reported by Lean gradually declined, so that in 1851 the celebrated Taylor's engine was only 62, and ceased to be reported. In 1853 Sims' compound at Carn Brea fell to 42. At this time a new Sims' compound was erected at Perran St. George, cylinders 60 inch horse power, 100 inch l.p., stroke 9 feet in the cylinder, and 8 feet in the shaft, but this engine did very badly as compared with Carn Brea, the highest duty recorded being 64 millions.

In 1854-5 the average duty of six of the best engines was 60 millions, and the average of the whole 45.5. 1856 was another important year, as in July the bushel was dropped altogether, and the hundredweight adopted as a standard. This great change did not affect the average duty, and from that time to the present the average duty of the best, and the average duty of the whole, has been just the same.

How much reliance can be placed on the weight of a bushel of coals that was measured, and supposed to weigh 91 lbs., I can hardly say. In 1838 I find that Mr. Wicksteed was requested by the Council of the Institute of Civil Engineers, to obtain information as to the weight of coal adopted in this county, and Mr. Nicholas Harvey, a well-known engineer, said "a bushel of Welsh coals varied from 80 lbs. to 112 lbs." and a foot note in Wicksteed's paper says: "This statement shows how little reliance can be placed upon results of trials where coal is measured and not weighed. If the measure is large enough to hold 112 lbs. of coal it should no longer be denominated a bushel." However, if the measured bushel contained 112 lbs. of coal previous to 1856, taking the number of engines reported and the conditions under which some of them worked, it must be considered even by the most prejudiced engineer that good work was done.

By tracing Lean's engine reporter I find some rather curious things respecting the performances of a few engines. For instance, a 70 inch engine in 1864 at Crane Mine varied 21.5 millions throughout the year; Tilley's 70 inch at Wheal Seton, 20 millions in 1865; Unity Wood 70 inch, 21 millions in 1876; Tregurtha Downs 80 inch, 23 millions in 1887; East Pool 70 inch, 21 millions in 1891; Gould's 80 inch, Wheal Granville, 29 millions in 1893; but the most astonishing was Thomas' 60 inch at West Bassett, which varied during 1895 from 61 the highest to 28 millions the lowest. This, in my opinion, goes to show that the performances of engines cannot be fairly compared unless the quality of the fuel is tested at the same time, because there is no reasonable cause why such great fluctuations should take place. In fact, Thomas' engine at West Bassett being under my control, I can confidently say that if ample allowance is made for the varying number of strokes per minute, this great fluctuation of duty cannot be accounted for in the general condition of the machinery; and again, referring to Wicksteed, he found in testing a very large heap of coal, it varied no less than 44 per cent.

Considering the very bad conditions under which most of the engines have to work in Cornish mines with the shafts very deep, and extremely crooked, in which also are all sorts of angles, the duty taken as a whole will, I venture to say, be better, all things considered, than any other mining area having an equal number of engines.

Consider for a moment extracts taken from a paper given by Mr. Dogald Baird at the Mining Institute of Scotland, and issued in May this year, in which he says:—"The question of extracting water from a mine is a most important one, and is becoming more important as mines get deeper and more difficult to drain. It is, therefore, of consequence that we should be well informed as to the best practice in pumping. When it is said that there are to the writer's certain knowledge many pumping engines giving as low as 10,000,000 foot pounds duty for every hundredweight of Welsh best coal, or coal of equal quality, consumed."

In the same paper he gives a table showing a test of four engines as follows:—"Bell engine, 100 inches diameter of cylinder, pumping 900 feet deep, boiler pressure 53 lbs., duty 50.26 million, age of engine 18 years. Davey differential underground pumping 900 feet deep. Boiler pressure 53 lbs., duty 41.36 millions, age of engine 2 years. Davey differential compound cylinders, 33 and 52 inches diameter, pumping 600 feet deep. Boiler pressure 80 lbs., duty 69.7 millions, age of engine 8 years. Compound bell cylinders, 28 and 48 inches diameter, pumping 504 feet deep. Boiler pressure 77 lbs., duty 35.8 millions, age of engine 8 years. The average duty of the whole is, therefore, 49.29 millions. All the engines are marked good, and the tests lasted from four to six hours only. The feed water passed into the boilers at 130, 125, 118, and 140° F. respectively, and the duty was reckoned on an evaporative power for feed of 10 lbs. water per lb. of coal. This quality here, in Cornwall, would be considered very good.

The above duty, as described by Mr. Baird, cannot be said to be even moderate, looking at the fact that the pits are comparatively shallow and vertical, and the engines, except one, practically new.

(To be continued.)

YORKSHIRE MINERS' STRIKE.—The miners at the Wharncliffe Collieries came out on strike on Tuesday.

MESSRS. H. BISKE AND CO. inform us that owing to increased demand for their articles, they have acquired additional premises at No. 120, M'Nees, E., where all machinery will be exclusively worked by electric motors.

"The Wire Rope and its Applications." By W. E. Hopkins, managing director of J. and E. Wright (Limited), Universe Works, Birmingham.

NOTES FROM BRITISH COLUMBIA.

(FROM OUR OWN CORRESPONDENT.)

FTER investing a good many millions in West Australia, the speculators are beginning to find that the mining laws of that torrid colony are "unbearable." In British Columbia we suffer considerably from an incapable Ministry. There are absolutely no party divisions, and as the gentlemen who form Her Majesty's Opposition in this province have not given signs of possessing a grain more of ability than those who sit in office, it does not appear that the suffering miner is at all likely to obtain any relief if a change of Government should take place. An instance showing how mining and other legislation is conducted in this province occurred last Session. A Mineral Bill had been drafted and passed through its initial stages, and it was in good shape to make a decent Act. During the last day or two of the Session, when Bills were being slaughtered wholesale, and business generally was being violently rushed along, the Attorney-General comes down at 12 o'clock at night with some important amendments to the Mineral Bill, and there and then gets them inserted, and the Bill passed, without giving the mining members, much less the mining community, a moment to consider them.

In spite of this, however, we are a good deal better off than West Australians. The laws are liberal in the extreme, and if some points in them are inexplicable and others contradictory, they aim at giving the poor man an equal chance with the rich, and enable him to acquire at a small cost a sufficient mining area.

The main outlines of British Columbia's mining laws are as follows:—Everyone engaged in mining is compelled to have a license, known in Australia as a minor's right. The fee for this is \$5 per annum. Failure to renew the license on or before the day it runs out involves a forfeiture of all mining property, except such as is held under a Crown grant. Provided with this license the free miner, as he is termed, may wander where he pleases and stake out claims of 1500 feet square, nearly 52 acres, but he is not permitted to locate more than one claim on each separate vein or lode. If he desires to stake out a claim on private lands he has to put up security for any damage he may do to the owner thereof through his working. Having staked out a claim he must record it at the Recorder's office within 15 days, with an allowance of one day extra for every 10 miles distance from the Record Office. The fee for this record is \$2.50 (10s.). Having recorded his claim he becomes the holder of a lease over it, which requires \$100 worth (£20) of work every year to hold it. When a group of adjoining claims is held in partnership, the yearly assessment work for all the claims may, with the consent of the Gold Commissioner, be done on anyone of them. When five years' work has been done—that is, when \$500 (£100) altogether has been expended on the property, the holder becomes entitled to a Crown grant of it. He has, however, to pay, in addition, the cost of the survey, which varies, of course, with different claims, but may be roughly estimated at \$250 (£50). The law permits a miner to pay the value of his yearly assessment into the Record Office, instead of doing the work on the property, and as the value of the five years' work may be paid all at once, there is nothing to prevent a Crown grant being issued at once, except the time necessary to make a survey of the claim. A further protection is granted to the miner, who may not desire to pay up all his assessments at once by Clause 28 of the Act, which provides that "no irregularity happening previous to the date of the record of the last certificate of work shall affect the title, and it shall be assumed that up to that date the title to such claims was perfect, except upon suit by the Attorney-General based upon fraud." This clause was inserted to put a stop to all the tricks of the claim jumper, and it was badly wanted. The owner of a mineral claim is entitled to "all surface rights, including the use of all timber thereon for mining and building purposes in connection with the working of the said claim, so long as he holds the said claim, for the purpose of developing the minerals contained therein, but no longer."

Such is the gist of the mining laws of the province so far as they relate to quartz mining, and it may fairly be said that they are liberal in the extreme. Put shortly, a mineral claim of 52 acres can be bought right out for £150. After one of the longest spells of fine weather ever known, winter came in during the first week in November, and drove the prospectors out of the hills. The record of mining events during the next six months will be mainly confined to the amount and value of ore actually shipped. In the Slocan there will be nearly 40 mines at work, at Ainsworth three or four. At Nelson, the great Silver King will probably rather increase than decrease its output, and at Rossland there may be 10 or a dozen more.

The Red Mountain Railway is practically finished, and has already reached some of the outlying mines. This line is a branch from the main line running between Nelson and Spokane. The country through which it passes, though hilly, is not mountainous, and the route is free from avalanches, snowdrifts, as they are locally called, which interfere with railway traffic in other parts of the district. The completion of this line gives the mine owners of Rossland the choice of several smelters. To begin with, it gives them direct communication via Spokane with all the railway systems of the United States, and it connects them also with Nelson, where the Hall Mine smelter is preparing to treat large quantities of their ore. In addition, they have the narrow gauge line running to the smelter at Trail, 7 miles away on the Columbian River. So many mines in this district have been importing machinery, and doing dead work during the summer, that a large output may reasonably be looked for.

Mr. H. W. Forster, M.P. for Seven Oaks, who has been in this country for some months, has purchased two-thirds of the Ruth Mine. The price paid was \$166,000, practically cash. The remaining third is still held by the original owners, Messrs. W. K. and D. E. McVay. It is reported that they are asking \$100,000 for their portion. The Ruth is one of the later Slocan Mines to come into the shipping market. A year ago it was little better than a prospect, but its owners wisely set to work opening it up, and to-day it has four tunnels at different elevations disclosing a magnificent vein of galena, rivalling that of its neighbour, the celebrated Slocan Star. The Ruth is close to the town of Sandon, where it has the choice of two lines of railway. It will probably rank as one of the greatest of the Slocan mines.

Mr. Callahan, representing an English syndicate, is vigorously pushing on work on the Galena Farm, a claim on Four Mile Creek, which runs into the Slocan Lake. A concentrator will be built, and the mine will soon ship ore. The same people have also bought the Red and Tend root, two claims on the divide between the Slocan Lake and Sandon Creek.

The London and British Columbia Gold Fields (Limited) has a force of men at work on the R-pulican group of claims on Crawford Creek. This stream empties into the east side of Kootenay Lake, behind Pilot Bay. The claims are some distance, about 13 miles, from the water, but a good trail has been

made up to them which can easily be made into a wagon road, or even a tramway.

There seems to be every possibility of the Crow's Nest Pass line being commenced next spring, and the people of Victoria and Vancouver are making a strong movement in favour of a line direct from the coast to Kootenay. The distance, as the crow flies, is about 250 miles, and there are several serious physical obstacles in the way. It is felt that the Crow's Nest Pass line will tend to drive the trade of Kootenay away from the cities of British Columbia in favour of the merchants of Eastern Canada. There are now some 20,000 people in Kootenay, and new comers are rapidly pouring in. There is every appearance of a big rush in the near future, and the trade is worth struggling for. The British Columbia line will also traverse some of the richest agricultural and pastoral districts of the province, the produce of which will find a ready sale in the mining country. Should this railway become an accomplished fact, it will probably lead to extensive smelting business at Vancouver.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Officer, Liskeard, Cornwall, writes December 10:—The mining market is dull, and devoid of any inquiry for shares, on the further reduction of tin. Prices mostly nominal. Quotations:—Basset (United Limited), 17s. to 18s.; ditto (5s. paid), 4s. 6d. to 5s.; Blue Hills, 2s. to 2s. 6d.; Carn Brea (United Limited), 1s. 6d. to 2s.; Down Consols, 17s. to 18s.; Dolcoath (United), 16s. to 17s.; ditto (10s. paid), 7s. to 7s. 6d.; East Pool, 16s. to 17s.; Killifirth (United), 3s. to 3s. 6d.; Levant, 3 to 3s.; West Kitty, 2s. 6d. to 2s. 10s.; Wheal Grenville, 4s. to 4s. 6d.; Wheal Kitty, 3s. 6d. to 4s.; Wheal Metal, 2s. to 2s. 6d.

Messrs. ABBOTT and WICKETT, Stock and Share Brokers and Mining Share Dealers, Bedruth, write under date of December 10:—The Cornish share market has been rather lower in tendency during the past week, a few shares having been pressed for sale. However, still continues on a limited scale. Quotations herewith:—Blue Hills, 1s. to 2s.; Basset (United) (fully paid), 17s. to 18s.; ditto (5s. paid), 4s. to 5s.; Dolcoath (fully paid), 16s. to 17s.; ditto (10s. paid), 6s. to 7s.; East Pool, 1s. to 1s. 6d.; Polberro, 1s. to 1s. 6d.; West Kitty, 2s. 6d. to 2s. 10s.; Wheal Grenville, 4s. to 4s. 6d.; Wheal Kitty, 3s. 6d. to 4s. 6d.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write December 10 (noon):—The past week's record is not a favourable one in most departments of rail, the English section being mostly effected on the pending labour trouble. Naturally the heavy lines have suffered the most with London and North-Western well to the fore in the drop on the very ill advised actions of the directors in this matter. Americans and Canadians have declined in majority. In the case of Americans Milwaukee and Louisville quote a little better, and also do New York Central and Union Pacific, but the rest of the changes are adverse. In Canadians Trunk First and Second Preference are just turn better, but the Ordinary and the Third Preference each quote fractionally lower. Dealing with the daily details, we have to report as follows:—

On Friday last home rails were very irregular, but changes were fractional on either side. Americans began pretty well and press held up fairly well, although there was very little business done. Canadians also showed a little stronger. Saturday last was a very idle day, and tone of prices were dull as a consequence. Home rails began to feel the effect of trouble in the labour market, Americans slightly easier. On Monday home rails all went easy, with the single exception of South Eastern Deferred, which were marked up 1s. In Americans and Canadians figures remain without change save for Union Pacific, which were put up nearly 1s. On Tuesday idleness was the prevailing feature, with lower prices in all departments of rails. Yesterday dullness still prevailed, and figures again showed some falling off. As regards home rails, the labour question is ruling the market, and for the present completely dominating the market, quite overshadowing the results of the half year's traffic down to the present with their consequent likelihood for dividend. Americans just on the better side, but little doing. No chance of moment in either direction in Canadians or Mexicans. To-day's traffic returns would doubtless have an inspiring effect if prices were not for the trouble looming ahead. This morning there is no lifting of the gloom, and consequently markets remain in a very dead tone. Coming now to the further classes in the market, Consols are put down 1s. on the week. In colonial stocks the only change is a rise of 1s. in Victoria Inscribed. In corporation stocks and debentures the only changes are in the upward direction, these ranging from 1s. to 2s. per cent. Foreigners, the only feature of this market, are a fall of 2s. in Italian Rentes, and rise of 1s. in Brasilia Four and a-half per Cent., and 1s. 6d. in ditto Four per Cent. Rest of alterations are fractional and contradictory as will be seen below. Banks are better where altered in amount, ranging from 1s. to 2s. Insurance and little changed, with decline rather in majority. In coal and iron, &c., Cammells are exceptionally better with a rise of 2s. Other changes small in amount and about evenly divided between higher and lower. Breweries mostly better again, but Allsopps are on the other side with a fall of 1s. In cellulose, gas concerns are easier, Gas Light and Coke being 2s. to 4s., and Imperial Ottomans being 6 down. Manchester Carriage and A & B issues quote again lower. The advances are all in very small fractions. Full particulars hereunder:—

ENGLISH RAILS.—Lower: Corns, 1s.; Great Easterns, 1s.; York Deferred, 1s.; Great Westerns, 2s.; Leds, 1s.; Brighton, 1s.; Chelms, 1s. to 1s. 6d.; London and North Western, 2s.; Saras, 1s. to 1s. 6d.; District, 1s.; Midlands, 1s.; North British, 1s.; Berwicks, 1s.; A, 1s.

CANADIANS AND AMERICANS.—Higher: Milwaukee, 1s.; New York Central, 1s.; Union Pacific, 1s.; Grand Trunk First Preference, 1s.; ditto Second Preference, 1s.; Lower: Athlone, 1s.; ditto Preference, 1s.; Central Pacific, 1s.; Denver, 1s.; Missouri, 1s.; Erie, 1s. to 1s.; Ontario, 1s.; Norfolk Preference, 1s.; Reading, 1s.; Canadian Pacific, 1s. to 1s.; Grand Trunk Ordinary, 1s. 6d.; ditto Third Preference, 1s.

CONSOLS.—Lower: Two and Three-quarter per Cent., 1s.

COLONIAL STOCKS, &c.—Higher: Victoria Inscribed, 1s.

CORPORATION STOCKS AND DEBDENTURES.—Higher: Birmingham Three per Cent., 1s.; Hull Three and Half per Cent., 1s.; Liverpool Three and a Half per Cent., 1s.; Lower: Argentine six per Cent., 1s.; ditto Five per Cent., 1s.; Italian Rentes, 2s.; Spanish Four per Cent., 1s. to 1s.; Turks D, 2s.

BANKS.—Higher: Adelphi, 1s.; National Provincial, 1s.; Gillian Joint Stock, 1s. to 1s.; Parr's, 1s.

INSURANCE.—Higher: British and Foreign Marine, 1s.; Manchester Fire, 1s. 6d.—Lower: Liverpool, London, and Globe, 1s.; Reliance Marine, 1s. 6d.; Royal, 1s.; Union Marine, 1s. 6d.

COAL, IRON, &c.—Higher: Cammells, 2s.; Ebbw Vale, 1s. 6d.; Fletcher Russell, 1s.; Sheepbridge A, 1s.; ditto B, 1s.; Lower: Bicklow (£20 paid), 1s. 6d. to 1s.; ditto (£12 paid), 1s. 6d.; Darnall, 1s. to 1s.; Tredegar A, 1s.

TELEGRAPHHS AND TELEPHONES.—Lower: Eastern Debenture, 1s.—Lower: Anglo-American Preference, 1s.

BREWERYHS.—Higher: John Baxter's, 1s.; Bentleys, 1s.; Hardy's, 1s.; Tamplin's, 1s.; Threlfalls Preference, 1s.—Higher: Allsopps, 1s.

MISCELLANEOUS.—17s., Great

MISCELLANEOUS.—Higher: Blackpool Victoria Pier, 1-16; Coats 1; Fowler Brothers, 2; Lever Brothers Pref., 2; Salt Union, 1-16; United Alkali, 2; Lower: Bowman Thompson, 1; Bradbury's, 1; Guard Steam, 1; Manchester Palace of Varieties, 6d.; Gas Light A, 2 to 4; Imperial Continental Gas, 6; Globe Telegraph, 1; Northern Assets, 1; Manchester Carriage A, 1; ditto B, 1.

LATER (4.0 P.M.)—The tone has been rather better to-day in most departments, home rails principally. Americans opened fairly well on quotations from the other side, and the improvement has been maintained down to the last. In Canadians, Pacifics quote a little better, but Trunk issues are quoted with change, notwithstanding the traffic increase of £4794.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker (December 10) writes:—During the past week the market has been quiet. The money market continues easy, foreign politics quiet, and trade returns favourable, so that indications point to better prices.

In shares of coal, iron, and steel companies prices are steady. The Marbella output for November has been 1469 tons. Steel Company of Scotland are at 6 to 6½; Stewart and Clydesdale 13½; and Wilson and Clyde 8½.

In shares of copper concerns prices are easier. The prospectus of a new Californian company, called the Mountain, has been issued with a capital of £1,250,000 in shares of £5 each, which are now quoted at a small premium. Tinto and Tharsis are both a little easier.

In shares of gold and silver mines a fair amount of business has been done. Confidence is far from restored in this section, but the tendency is no doubt upwards. This is partly due to the Goldfields Deep return for last month, 6637 ounces, which shows a considerable improvement, and also to the Nigel Deep, having struck the reef at 686 feet, assaying 3 ounces 1½ dwt. per ton. Chartered improved from 41s. 3d. to 45s. 6d. Consolidated from 7½ to 8½, East Rand from 65s. to 80s., and Randfontein from 39s. to 42s. 9d., but the best prices of the week have not been maintained. The prospectus of the Northern Territories Gold Fields of Australia has been issued. The shares are being offered at £3 each, and are being freely dealt in at £4. African Recovery are at 11s.; Abbott's, 3s.; Associated Southern, 20s.; Afrikander, 20s.; Anglo-African Gold Properties, 12s. 6d.; Barretts, 12s.; Bantjes, 37s. 6d.; Big Blow, 6s. 3d.; Broken Hill, 6s. 6d.; Blue Spur, 9s. 9d.; Brilliant and St. George, 30s.; Bulawayo Syndicate, 18s. 9d.; Central De Kaap, 9d.; Cripple Creek Pioneer, 30s.; Doornkop, 3s. 3d.; Emma, 1s. 3d.; Florence, 1s.; Frontino, 30s.; Golden Arrow, 12s.; Golden River, 1s.; Gold Fields of Mozambique, 18s.; Golden Horseshoe, 35s.; Golden Pah, 3s.; Gwelo, 9s.; Glenrock, 1s. 3d.; Gleeson's, 13s. 3d.; Hauraki Associated, 3s.; Hansan's Star, 18s. 9d.; Hainault, 14s. 6d.; Hampton Pines, 52s. 6d.; Hall Mines, 30s.; Hit or Miss, 17s. 6d.; Johannesburg Consolidated, 47s. 6d.; Joker, 7s. 6d.; Kimberley Roodepoort, 41s. 3d.; Kempink, 1s. 6d.; London and Paris Financial, 20s.; Lady Sherton, 41s. 3d.; Langlaagte Royal, 15s.; Lisbon, 5s. 3d.; La Plata, 9s.; Maidland, 36s. 3d.; Marchison's Gift, 6s. 9d.; Mount Margaret, 22s. 6d.; North Croydon, 3s. 3d.; New Steyn, 22s. 6d.; North Bokker, 17s. 6d.; Nordenland Realisation, 2s. 6d.; Orion, 15s.; Pearl Central, 18s. 9d.; Porges, 20s.; Randt, 4s. 6d.; Rhodesia, 19s.; Sunburst, 2s.; Violet, 15s. 6d.; Victory, 1s. 9d.; West Australian, 1s.; and General Finance, 41s.; West Australian Trading, 2s.; White Feather Main Reef, 7s.; and Zambezia Exploring, 37s. 6d.

In shares of miscellaneous companies prices are steady. In oil companies, Broxburn are at 9s.; Pamperton 6s.; and Young's 27s. 6d. Coal Alkali Preference offered. Nobel's Dynamite lower at 13s. 16d. on reported death of the inventor. Roburite Explosives 10s.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of December 10:—The railway market has since the date of last week's report been shaken by the labour agitation. Caledonian Deferred has fallen from 59 15-16 to 58 5-16, North British from 47 13-16 to 45 1-16, Highland from 93 to 92. There have been comparatively few changes in insurance shares. Caledonian are fractionally better. City of Glasgow have risen from 12½ to 12½, Scotch Union A from 86s. 9d. to 87s. ditto B from 17 1-16 to 17½. Standard Life have fallen from 54½ to 54. The changes in iron and coal shares are unimportant. In copper shares, Arizonas have changed from 54s. 3d. to 53s. Bio Tinto from 24s. to 24 15 16, Tharsis from 25s. 15 16 to 25s. Broxburn Oil shares have improved from 9s. 6d. to 10s. Pamperton Oil from 6s. 2d. to 6s. 16d. Distillers have risen from 20s. 1-16 to 20s. Edinburgh United Breweries have declined from 14s. to 14s. J. and P. Coats have changed from 61½ to 61½.

THE IRON AND STEEL MARKETS.

Messrs. JOHN STEVENSON and COWPER's weekly report, dated Middlesbrough and Newcastle-on-Tyne, December 10, states:—There has been a gradual falling away in prices of warrants during the past few days, and the market closed this afternoon at considerable reductions as compared with last week. This is commonly attributed to speculative operations and the effect of approaching holidays, but there appears to be a scarcity of work to follow orders which at present are affording full employment, and this applies especially to shipbuilding. In the meantime, stocks in public stores are being reduced both here and on the West Coast, and shipments from Cleveland, though 7000 tons below those of November, are as much above the average of the past four years. There is very little being done in local iron, and makers are generally adhering to 41s. for No. 3, although second-hand makers are taking 6d. or 9d. less for prompt clearance. Hematite is quoted 48s. 6d.—49s., but 50s. has been paid for forward delivery. Spanish ore supplies are improving, but imports are not yet sufficient for all the furnaces recently making this quality. Finished iron and steel stand at recent quotations both for heavy and light sections. Coke is firm for next year at 13s. 6d., and coal is in good demand for gas and manufacturing purposes at a slight improvement in price. The Glasgow market closed this afternoon steady, small business. Scotch 48s. 1d.; Cleveland 40s. 1d.; Cumberland Hematite 50s. 3d., and Middlesbrough Hematite 48s. 4d., cash sellers.

Messrs. BARRY, HEAD, and CO's weekly report, dated 26, Lombard-street, E.C., December 10, states:—The price of finished materials remain practically as last reported. A rather weaker tendency is manifest, and new orders are coming in but slowly. Works continue busy, however, on orders already booked, and we look for better things after the New Year.

INSTITUTION OF MINING AND METALLURGY.—The third ordinary meeting of the sixth session will be held on Wednesday, December 16, in the Lecture Theatre of the Geological Museum, Jermyn-street, S.W., at eight o'clock, when the following papers will be read and discussed:—(1) "On the Drilling of the Bessemer Borehole, near Johannesburg," by Mr. John A. Chalmers, M.Inst. M.M. (2) "Notes on the Treatment of the Gold Ores of the Gaucho Mineral District, Desert of Atacama, Chili," by Mr. G. M. Butler, M.Inst. M.M.

CLEVELAND INSTITUTE OF ENGINEERS.—Mr. Percy C. Gilchrist, A.R.M.M., F.R.S., will read a paper on the "Bertrand-Thiel Process," before the institute, at Middlesbrough, on Monday, December 14.

Messrs. SCHRAM and CO. announce that they have removed from 17a, Great George-street, to Cannon-street House, London, E.C.

BOARD OF TRADE RETURNS.

NOVEMBER TABULAR STATEMENT.

Specially compiled for "The Mining Journal" from the Board of Trade Returns.

THE Returns issued on the 7th inst. show that the Imports amounted to £42,502,968, an increase of £3,496,028, and that the Exports totalled £13,539,653, a decrease of £1,000,480, compared with the corresponding month last year. For the 11 months ended November 30 the Imports were £298,503,740, an increase of £18,533,717, and the Exports £219,631,003, an increase of £17,541,367, compared with the corresponding period of 1895. The Exports of Foreign and Colonial Merchandise show an increase of £16,381 for the month, and a decrease of £2,083,654 for the 11 months, the totals being £24,380,431 and £55,855,653 for the one and 11 months respectively.

EXPORTS:—SUMMARY OF INCREASES AND DECREASES.

PRINCIPAL AND OTHER ARTICLES	QUANTITIES.		VALUES.	
	INCREASE	DECREASE	INCREASE	DECREASE
Raw Materials:				
COAL and Patent Fuel ... Tons.	—	24,790	—	60,952
COAL, &c., shipped for steamers' use ... Tons.	74,451	—	—	—
Metals:				
BRASS, and manufactures of ... Omts.	1,654	—	5,562	—
COPPER, unwrought and wrought ... Omts.	—	42,513	—	89,391
HARDWARE and cutlery ...	—	—	3,663	—
IMPLEMENTS and tools, and parts thereof ...	—	—	—	2,949
IRON, unwrought and wrought ... Tons.	45,733	—	174,66	—
LEAD, pig, rolled, &c.	—	374	—	3,803
PLATE, and plated gilt wares &c.	—	—	—	1,516
TIN, unwrought ... Cwts.	1,679	—	2,003	—
ZINC or SPelter ... Cwts.	—	8,921	—	8,181
OTHER ARTICLES ...	—	—	1,106	—
			187,005	124,914
Total ...	—	—	61,91	—
Machinery:				
Steam engines ...	—	—	—	3,350
Other descriptions ...	—	109,271	—	31,350
Total ...	—	—	7,91	—
ALKALI ... Cwts.	—	229,556	—	48,116
CEMENT ... Tons.	—	6,504	—	11,156
PRODUCTS OF COAL ... £	—	15,984	—	—

EXPORTS:—BRITISH AND IRISH PRODUCE.

PRINCIPAL AND OTHER ARTICLES	QUANTITIES.		VALUES.	
	Month ended Nov. 30.	1895.	Month ended Nov. 30.	1895.
Metals and Articles Manufactured therefrom (except Machinery):—				
BRASS, and Manufactures of, not being Ordnance ...	9,175	10,769	3,907	44,591
COPPER: Unwrought, in Ingots, Cakes, or Slabs, and Precipitate ...	—	—	—	—
To Germany ...	14,942	7,038	37,846	18,28
Holland ...	18,715	4,228	44,374	10,65
Belgium ...	4,644	1,980	10,127	9,96
France ...	9,492	4,833	23,31	12,144
Italy ...	1,701	2,601	3,929	9,358
British East Indies ...	31	23	80	5
Other countries ...	5,735	3,704	13,552	9,116
Total ...	54,723	25,301	132,569	64,855
Wrought, or Manufactures, unenumerated:				
To Sweden and Norway ...	2,233	2,727	6,693	8,783
Holland ...	641	237	1,797	1,23
Turkey ...	1,905	3,407	5,010	9,977
Egypt ...	2,774	3,198	6,25	8,925
Brazil ...	2,632	1,95	7,280	4,01
British East Indies ...	6,909	1,248	20,334	9,057
Australia ...	1,110	2,106	3,197	9,857
Other countries ...	6,814	6,974	20,274	23,27
Total ...	26,418	22,791	74,44	70,02
Mixed or Yellow Metal:				
To China and Hong Kong ...	798	882	1,929	2,120
British East Indies ...	22,87	15,219	48,940	39,790
Other countries ...	6,363	4,920	14,111	16,035
Total ...	29,991	21,021	65,760	49,595
Total of Copper ...	111,122	88,619	273,733	181,342

Hardware and Cutlery	QUANTITIES.		VALUES.	
	Month ended Nov. 30.	1895.	Month ended Nov. 30.	1895.
Implements and Tools, and parts thereof ...	—	—	174,568	178,329
Total ...	—	—	119,35	116,088
Iron and Steel: Pig iron:	Tons.	Tons.	£	£
To Russia ...	1,859	2,071	5,537	7,182
Sweden and Norway ...	4,319	6,583	9,541	10,014
Denmark ...	1,910	2,90	3,982	6,335
Germany ...	20,568	34,575	74,973	80,658
Holland ...	11,081	21,071	22,790	45,142
Belgium ...	2,746	14,652	8,757	3,168
France ...	3,339	3,806	8,344	8,078
Portugal, Azores, & Madeira ...	1,748	270	3,119	61
Spain and Canaries ...	231	51	1,798	128
Italy ...	9,353	4,511	20,641	18,28
United States ...	9,16	563	49,865	31,122
Australia ...	1,486	2,187	3,743	5,223
British North America ...	934	66	3,159	1,738
Other countries ...	8,231	5,271	21,438	13,515
Total ...	67,016	98,025	205,694	223,357
Bar, angle, bolt, and rod ...	12,172	14,961	77,11	93,91

GOLD MINING IN ONTARIO.

(FROM OUR OWN CORRESPONDENT.)

I FREQUENTLY hear the remark made "that nothing can be done with regard to mining during the winter months in Canada." As this appears to be the opinion held by most people, especially in England, it will be news to them to know that many of the mines will be vigorously worked during the period of frost and snow, and supplies are already being taken in for the different properties which are far enough advanced to warrant the working of the same. Of course, prospecting is entirely out of the question when snow covers the ground, but veins located and surveyed can be more easily and cheaply developed in winter than in the summer months. Machinery and supplies can be taken in over the ice, to almost any point, at a cheap rate not exceeding \$12 per ton, and even cheaper, should the property be situated near the railway, while the cost of taking the same supplies during the summer months would be almost double; and, with regard to development, shafts can be sunk at a cheaper rate, especially if there is surface water to contend with, as in winter this is frozen up.

The first annual meeting of the shareholders of the Law Bill Lake Gold Mining Company (Limited) was held in the Board of Trade rooms, Hamilton, and everyone holding stock in the company should congratulate himself on his good fortune at the prospects of handsome dividends that will assuredly come in the future. The opening up of this mine, and the wonderful showing of ore, has done much to attract attention to this district. Hundreds of acres of Crown lands have been acquired around the Law Bill Company, and some very rich veins have already been discovered. Everyone who has visited this property predicts most promising future for it, and mining engineers are astonished at the wonderful richness of the ore. A stamp mill, together with the necessary machinery, will be erected as soon as possible. There are about 700 tons on the dump, and with the increased supply from the new levels this will be greatly added to. Early next year the company expect to have everything in readiness to treat 25 tons of ore a day, and keep the mill running continuously day and night. The shaft is down about 125 feet in a splendid body of ore from 5 to 7 feet wide. About 50 feet of drifting has been done at the 60 feet levels, and the ore being taken therefrom shows free nuggety gold. An average assay of ore from the drifts went over \$170 per ton. Drifts will at once be started at the 120 feet level, and the work pushed with an increased staff of miners, under the able management of Mr. F. S. Wiley. An especial feature of the mine is that the ore not only increases in quantity, but improves in quality as greater depth is attained. In the shaft the vein carries a width in the south end of about 5½ feet, and in the north end of about 5 feet. On such a promising mine anything smaller than a 10 stamp mill would be out of the question—in fact, I think the company intend purchasing a larger one. An example of low capitalisation is illustrated in this mine, the capital being \$100,000. The stock stands to-day at a higher premium than any other mining stock in the market, and with earnings of from \$90,000 to \$100,000 per annum—which is a moderate expectation—the value of Law Bill stock will be increased tenfold in a few months.

Promising reports are also to hand of the Hawk Bay Gold Mining Company. This company is under the same management as the Saw Bill Lake Company, and only lately formed. The property is situated about 6 miles south-east of the Law Bill Mine. About 20 men are engaged in preliminary development, sinking a shaft, &c., and a very rich body of ore has been encountered. The vein is perceptibly widening, and the character of the quartz shows marked improvement.

I have no personal interest in either of the above-mentioned properties, but it is pleasing to record a successful effort on the part of Ontarians to develop the mineral resources of their province. A successful mining enterprise is a sure magnet to attract capital, not only here but from abroad, and the best advertisement that there are exceptional openings in Ontario for investment with almost a sure chance of realising handsome profits. To make gold mining in Ontario a success, it is necessary to conduct mining operations so that they will stand the test of legitimacy, and create confidence in those who have money and are willing to back up mining operations. Americans are always ready to embrace a good chance, so that it will not be surprising to hear that they are well represented in the vicinity of the Law Bill Company. Several New York capitalists are interested in at least a dozen most promising properties. Some of them have been reported on by eminent experts, and have been pronounced as being of great value. Some of the leads average 100 feet in width, and are panning gold for the entire length.

Another promising district, in which a number of rich discoveries of gold have been found, is the Jackfish Bay, a little over a hundred miles north-east-by-east of Fort William. The country is very promising and not of a difficult nature to prospect. A large gold-bearing vein has been discovered a few miles east of Schrieber. Owing to the lateness of the season not much exploratory work has been done, but next spring vigorous prospecting work will be done. According to present indications the width of the belt is from 15 to 20 miles in width.

Many new mining companies are being formed for the purpose of carrying on operations in Ontario. Among them are the following:—The Gold Mining Company of Sudbury (Limited), with a capital of \$100,000; the Ontario Mines Development Company (Limited), with a capital of \$60,000; the Lake Superior and Loon Lake Mining Company (Limited), with a capital of \$99,000; the Preston Gold Mining Company of Seine River; the Heather Bell Gold Mining Company of Toronto (Limited); and the Rainy River Gold Mining Company (Limited).

As an instance of the world-wide interest which the gold fields of Ontario are creating, Mr. I. W. Southworth, of the Ontario Bureau of Forestry, has received a letter from his brother, at San Rafael, California, saying that capitalists there are anxious to furnish the necessary capital to put up stamp mills, and operate any gold mines in Canada on a percentage, providing the ore yields at least \$7 a ton. Prospectors, possessing a claim minus the necessary capital to work it, might find this a first-class opportunity, should the offer be *bona fide*.

RIVER LEVEL COLLIERY, ABERNANT, FLOODED.—On Wednesday night, a short time before the day shift at the River Level Colliery, Abernant, ceased working, a terrible rush of water made its way to the Gellydeg seam, where some 120 men were working, and the stream of water rushing down the seam, which has a considerable dip, the men had great difficulty in making their escape. Ultimately, all but five men reached the surface in safety, many having to walk several yards through the water neck deep. Little or no hope are entertained that those still in the pit will be saved.

THE QUEENSLAND COLLIERIES COMPANY (LIMITED) have declared a dividend of 5 per cent. for the year ended June 30.

INDIAN MINES' OUTPUT FOR NOVEMBER.

THE output of the mines for November was 28,559 ounces showing an increase of 398 ounces as compared with the preceding month, and an increase of 6014 ounces as compared with the corresponding month of 1895. The production in ounces since the beginning of 1892 has been as follows:—

	1892.	1893.	1894.	1895.	1896.
January ...	11,674	16,814	17,026	19,672	29,986
February ...	11,780	16,656	15,803	19,358	27,418
March	11,579	17,463	16,080	20,257	26,171
April.....	11,813	18,287	15,551	20,399	26,866
May	12,488	17,922	16,543	20,797	25,840
June	11,847	16,879	15,459	20,839	25,751
July	13,277	16,676	18,271	19,280	26,119
August	14,854	16,692	19,073	20,704	26,739
September	15,529	17,060	18,911	21,502	27,439
October	15,922	17,440	19,119	22,301	28,161
November	15,942	17,557	18,825	22,545	28,559
December	16,435	17,659	19,068	22,652	—
Total ...	163,140	207,135	209,729	250,306	292,599

The output, in ounces of the individual mines for the past six months have been:—

	June.	July.	Aug.	Sept.	Oct.	Nov.
Mysore	8,955	9,038	9,133	9,328	9,331	9,341
Champion Reef 6,643	6,433	6,617	7,011	8,004	8,204	
Ooregum	5,332	5,288	5,109	5,021	5,037	4,085
Nandydroog	3,589	3,803	3,918	4,080	4,081	4,976
Coromandel	620	710	720	810	792	800
Mysore W. and Wynsard	422	452	474	285	371	384
Balaghat	—	—	—	—	—	—
Mysore	306	211	237	182	278	225
Mysore Reefs	94	—	137	128	203	427
G.F. of Mysore	—	—	—	—	64	117
Total	25,751	26,119	26,739	27,439	28,161	28,559

THE Association of Mines of the South African Republic have cabled to their London agents, the Robinson South African Banking Company (Limited), that for the month of November an output amounting to 41,369 ounces was obtained by the following companies:—Roodepoort United Main Reef, Meyer and Charlton, Princess Estate, Van Ryn, George Goch (Amalgamated), Wemmer, Langlaagte Estate, Block B Langlaagte Estate, Lancaster, Langlaagte Star, New Midas Estate, Porges Randfontein, North Randfontein. This compares with 35,970 ounces in the preceding month.

MR. ROBERT WARNER, Chartered Accountant, of 300, Winchester House, E.C., has been appointed liquidator of the Golden Link, Hesperus, and Eclipse Gold Mining Companies under the terms of arrangement for the amalgamation of these companies with the Golden Link Consolidated.

MR. H. L. SIMMONS, of Messrs. Bowes Scott and Co., mining engineers, is leaving this week for British Columbia.

WANTED.

* Prepaid advertisements are inserted in this column at the rate of 8d. per line, with a minimum charge of 4s.

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Steamers.	London.	Southampton.
Arundel Castle (via Canaries) ...	December 18	December 19
Hawarden Castle (via Madreia) ...	December 25	December 26
Garth Castle (via Canaries) ...	January 1	January 2
Tantallon Castle (via Madeira) ...	January 8	January 9
Lismore Castle (via Canaries) ...	January 15	January 16
Norham Castle (via Madreia) ...	January 22	January 23

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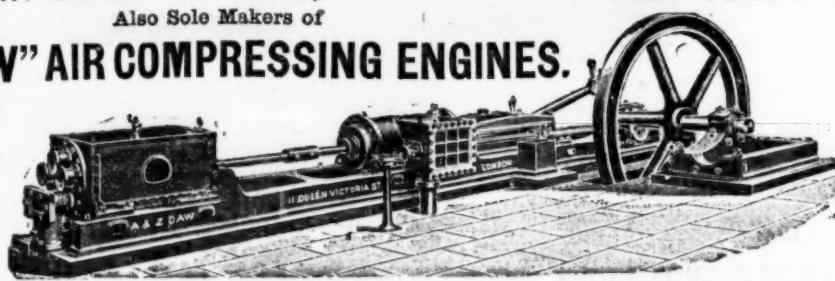
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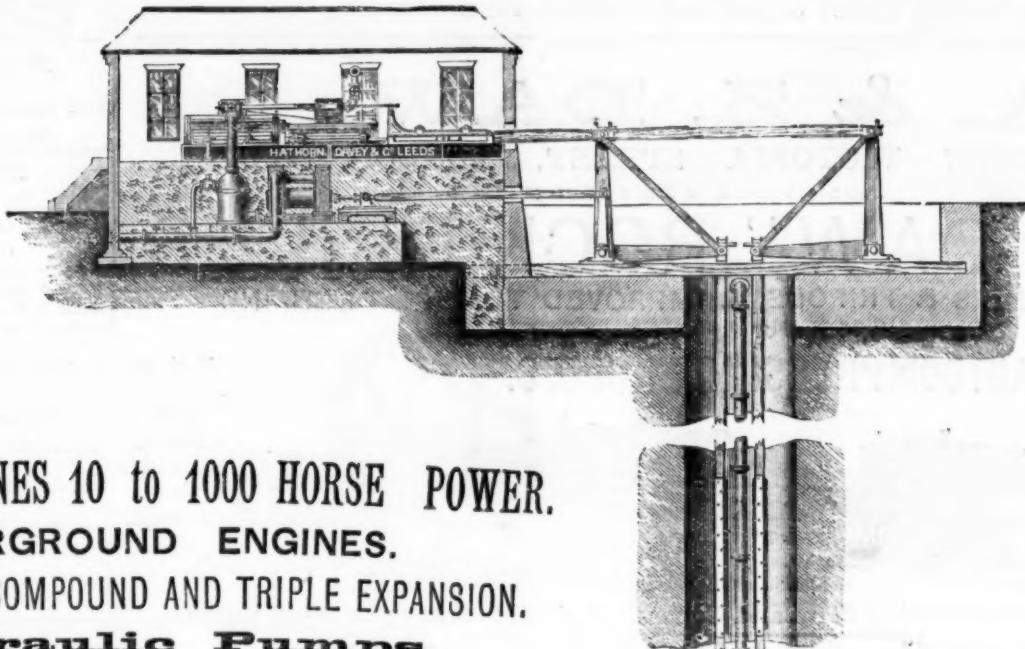
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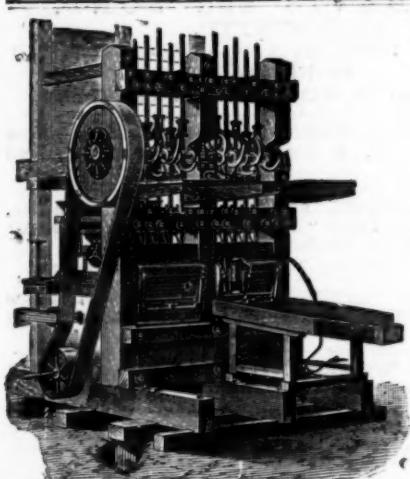
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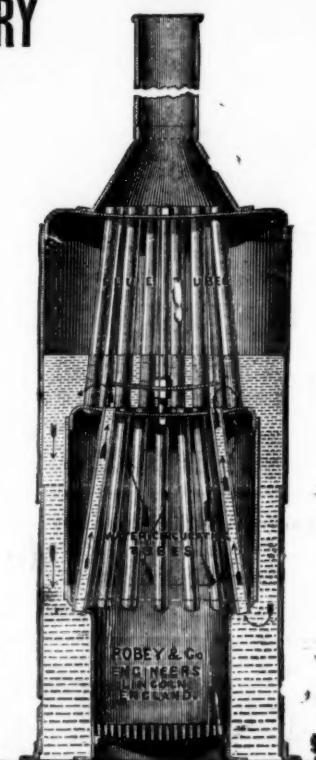
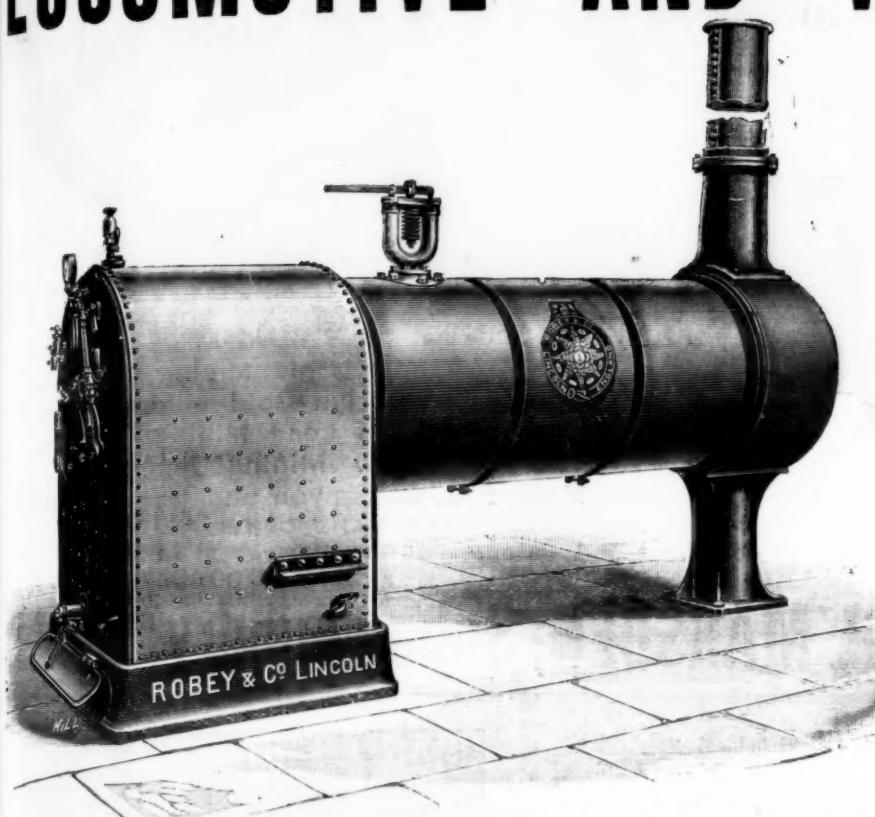
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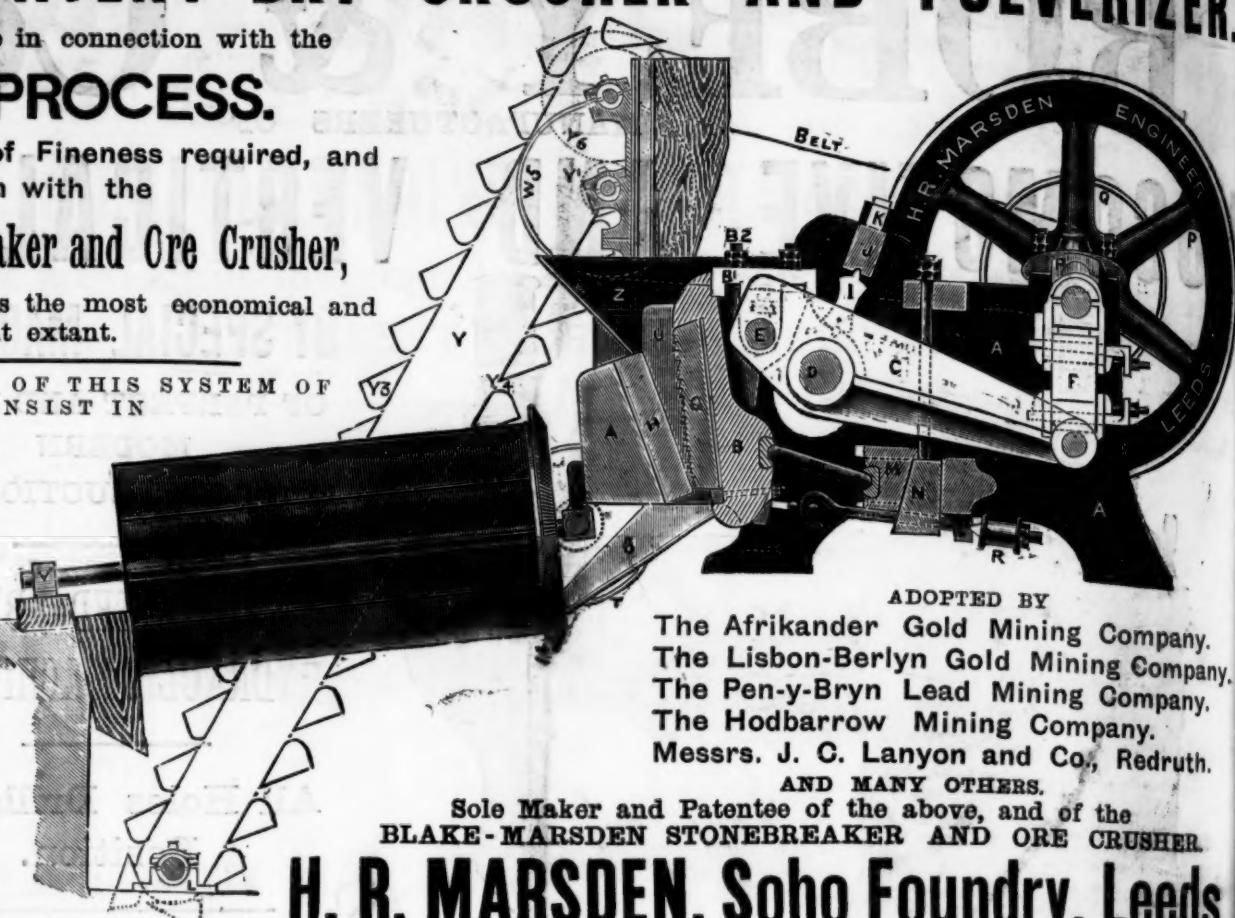
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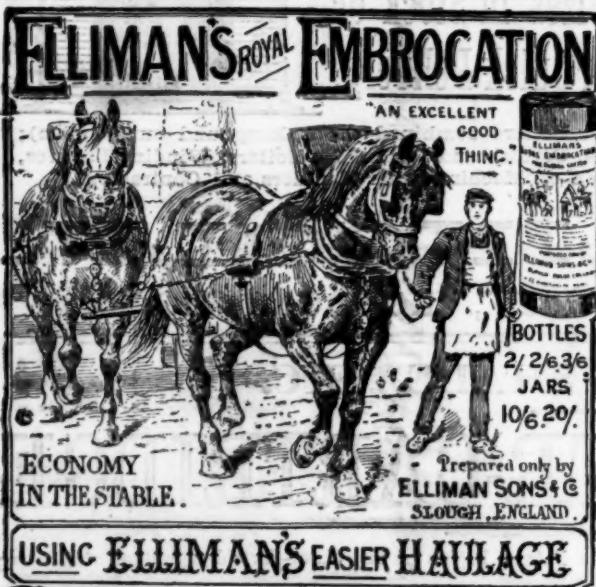
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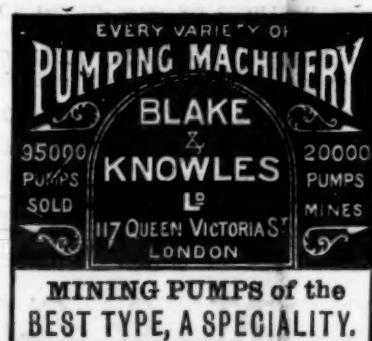
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